

Cerritos Advanced Conference 2020

Food and Agriculture Organization (FAO)



Topic A: Food Insecurity

Topic B: The Locust Crisis in East Africa

Director: Daewon Kwon

POSITION PAPERS DUE on October 17th by 11:59 pm to Committee Email

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To Delegates of CHSMUN Advanced 2020

Dear Delegates,

Welcome to CHSMUN Advanced 2020!

It is our highest honor and pleasure to welcome you all to our 2020 online advanced conference here at Cerritos High School. On behalf of the Cerritos High School Model United Nations program, we are proud to host our very first advanced conference, where you will become more knowledgeable on international issues, participate in intellectually stimulating discussions, and create new and everlasting friendships.

The CHSMUN program continues to compete around the world as a nationally ranked MUN program. Our delegates utilize diplomacy in order to create complex solutions towards multilateral issues in the global community. Our head chairs are selected from only the best seniors of our program, undergoing a rigorous training process to ensure the highest quality of moderating and grading of debate. Furthermore, all the topic synopses have been reviewed and edited numerous times. We strongly believe that by providing each and every delegate with the necessary tools and understanding, he or she will have everything they need to thrive in all aspects of the committee. We thoroughly encourage each delegate to engage in all of the facets of their topic, in order to grow in their skills as a delegate and develop a greater knowledge of the world around them.

Although this wasn't what we expected, our advisors and staff have put in countless hours to ensure delegates have an amazing experience at the online conference. Our greatest hope is that from attending CHSMUN 2020, students are encouraged to continue on in Model United Nations and nevertheless, inspired to spark change in their surrounding communities. With this strong circuit consisting of 6 schools and over 500 delegates, CHSMUN Advanced 2020 will provide a quality experience for intermediate delegates to enhance their speaking and delegating skills.

If you have any questions, comments, or concerns, please contact us! We look forward to seeing you at CHSMUN Advanced 2020!

Sincerely,

Anjali Mani and Karishma Patel

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Secretary-Generals

A Note From The Director

Delegates,

My name is Daewon Kwon and I look forward to being your director for the UN Food and Agriculture Organization at the 2020 Cerritos Fall Conference. I joined MUN four years ago, and every conference has been an amazing opportunity to showcase my solutions and growing speaking skills. Out of all the committees, FAO has been my favorite of all time, as the solutions they present are innovative and the issues they tackle are applicable to any period of time. Outside of MUN, I've been part of many initiatives and sports at Cerritos like Volleyball, Swim, Water polo, and Scioly, I also am an avid reader and a fan of interesting hobbies like sculpting with gypsum, spearfishing, and transcribing historical documents! I hope that as your director, I can create an enjoyable environment in our new online format that can contribute to your MUN journey as it has for me. Thank you for your time, and feel free to contact me anytime if you have any questions or concerns!

Sincerely,

Daewon Kwon

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Director, FAO

Committee Introduction

The oldest permanent specialized agency in the UN, the Food and Agriculture Organization (FAO), was established on October 16, 1945, replacing the International Institute of Agriculture and leading the eradication of hunger worldwide through proper food security. Initially headquartered in Washington D.C. but moved to Italy, Rome, over 189 member states work in collaboration with the European Union and have an international impact of 130 countries. FAO is separated into eight departments, including various aspects of food insecurity like agriculture, biodiversity, corporate services, and others in order to be able to tackle this multi-faceted issue in various perspectives. The UN branch is led by the Conference of Member Nations, which reconvenes every two years in order to review its legislative related works influencing policy and various global frameworks to ensure high quality, correct the budget for the next biennium, and continuously strive for improvement. Additionally, the conference also is obligated to elect a new Director-General and the governing body consisting of 49 member states for a three-year term. Starting in 1994, a movement was started to also begin decentralizing the agency, with half of the FAO's personnel working in various field offices outside of Rome, Italy, and cutting overall expenses by \$50 million. Funding for the agency comes from a combination of assessed and voluntary contributions, 39 percent coming from assessed contributions by the member countries, and the remaining amount from additional contributions from Member states and other partners, like affiliate organizations and large donors.

TOPIC A: Food Insecurity

Background:

The World Food Summit defines food insecurity as when stable physical and economic access to sufficient and nutritious food is absent. According to the World Food Program, in 2018, about 821 million people were malnourished, which has been a stagnating number since 2014 and shows no sign of decreasing. Through improper nutrition, many dangerous consequences are bound to follow. For example, 9 million die due to malnutrition and hunger every year according to the organization The World Counts, 3.1 million being children and accounting for half of all children's deaths worldwide below the age of 5. Not only does food insecurity become a fatal issue, those who survive become three more times more vulnerable to depression and anxiety, while additionally increasing the rates to other irreversible damage like stunting and organ failure. Deforestation, which is the act of clearing large plots of land (consisting of shrubs, trees, and other various types of native vegetation) often for access to a large patch of usable land, is an issue that has been increasing in prevalence in recent times, despite the recent wealth of information regarding the negative implications. From 2014 to 2020, the New York Declaration on Forests in the UN Climate Change Summit expected 150 million hectares of land to be saved and lower our deforestation rates by half internationally, but recent studies show there was an increase in rates by 43 percent instead. Not only is there financial incentive to cut down trees through palm oil and charcoal farming, 1.6 billion people depend on these forests in order to sustain their households. Often, farmers will employ a common practice of burning the local area, as the left land will leave a solid chunk of fertile land. This is exemplified in the fact that about 80% of tropical deforestation, often occurring in developing countries where a significant portion of the population is independently farming for sustenance, can be accredited to agriculture. With the loss of trees, several problems arise, but most prominently a loss of biodiversity and land degradation pose the worst hazards. With the loss of the world's strongest method of carbon sequestration, the local wildlife and other plant life dependent on the trees all disappear, hurting the biodiversity of local nature and fueling climate change that'll negatively impact agriculture for years to come. This also leads to a never ending cycle for the rural farmer, as land degradation and agricultural usage often follows deforestation since trees and its roots hold the soil together and prevent soil erosion. With the lack of proper and healthy soil, crop yield drops by an average of 34 percent and food prices soar, fueling malnutrition trends that affect over 1.2 million people in the developing world (of which 65% are children). The lack of water is another prevalent issue plaguing food security efforts all around the world. 70 percent of water consumption in the world is in the agricultural sector, and in developing countries, this number soars to 95 percent often due to inefficient agricultural systems. With this overwhelming usage of such a scarce resource, it's no surprise that there are large shortages of water, especially in areas affected by climate change and low socioeconomic factors (reliable roads, etc). For example, in Southern Africa where water scarcity has been exponentially magnified in the past

few years, food production is speculated to decrease by at least 30% according to IFPRI solely according to climate change (land degradation, loss of vegetation, and lack of water due to changing climate). Not only that, Lake Victoria dropped by 50% in water streams during droughts (that are increasing in recent decades). Finally, according to a sample land plot the UNEP analyzed, about 38% of the water was contaminated with unsafe levels of nitrate, due to leakage from nearby agricultural production centers. Without proper access to water and continuing inefficient methods, farmers (especially self-sufficient) will be at an exponentially higher risk of food insecurity. One factor that threatens food security is overpopulation. According to the FAO's How To Feed The World in 2050 document, the world's population will increase by 34 percent, which will come to about 9.1 billion people and will be mostly observed in developing countries. Additionally, the world is also projected to increase to 75 percent urbanization, up from 49 percent today. With this increase, the average calorie consumption would increase 15 percent to 3060 kcal per person (observed in 2016), necessitating a 70 percent increase in the food production market. The FAO states that cereal production annually will have to increase from 2 to 3 billion tons and meat production from 200 million to 470 million tonnes. With land becoming an increasingly rare resource as well (and arable land being a small fraction of unused lands or often becoming arid due to aforementioned issues like desertification), production will also be limited to an increasingly malnourished and growing population. Proper improvements are necessary or the world will be on track to malnutrition due to the lack of nutritious food for every individual. With recent developments such as COVID-19 and locust swarms, the aforementioned issues are other factors that only magnify the other causes. With the new pandemic, physical emergency aid has to be socially-distant, and immediate physical aid is now harder to access and distribute. Not only that, the recent locust outbreak (the worst observed in decades) has been lowering the current stockpiles, putting even more at risk. Although the impacts mentioned even forecast that over 200 million additional individuals will become food insecure after this pandemic. Delegates should try to innovate with solutions in order to adapt to these uncertain circumstances and provide food security for all.

United Nations Involvement:

The United Nations has recognized the importance of this issue and has taken numerous steps in order to combat food insecurity around the world. After the creation of FAO in 1945, the UN set out to establish guidelines on essential human rights and the necessity of proper nutrition, drafting the United Nations' Universal Declaration of Human Rights in 1948 and listing food security as one of the many inalienable human rights. Then, in 1961, the World Food Program was created after the 1960 FAO conference in order to provide food aid through the UN. Aside from the Universal Declaration of Human Rights, the United Nations have acknowledged the severity of food insecurity and set eight different goals in the Millennium Development Goals. Between 1990 to 2015, the first goal was to "eradicate extreme poverty and hunger", achieving this by providing "full and productive" work to all individuals, halving the number of households with a daily income of \$1 or less, and most importantly cutting the number of individuals who suffer from hunger in half. Even if you observe the Sustainable Development Goals set in 2015, the second Sustainable Development Goal works to improve the current situation of food

insecurity, stating “End hunger, achieve food security and improved nutrition and promote sustainable agriculture.” In addition to this, the United Nations has passed numerous resolutions to help raise awareness and relieve tensions caused by food insecurity, like A/RES/35/70, which established the World Food Day to bring . Even recently, the FAO has established the Global Humanitarian Response Plan, formulating different approaches in order to combat the changing situations. Physically, in 82 countries, over 500 genebanks were able to be conserved through 14 distributing centers that distributed a total of 5.3 million seeds and provided local farmers with the opportunity to plant healthy and viable seeds. The FAO has also held multiple World Summits on Food Security, addressing various aspects of the issue and inviting 10,000 participants from 185 countries to appoint hundreds of governmental organizers to provide for an inalienable right.

Case Study: The Central African Republic

The Central African Republic has been one of the most malnourished populations in the world, ranking second to last in the Humanitarian Development Index in 2018. With the population becoming increasingly troubled by recent developments, several issues have hindered the response available to the citizens of the Central African Republic. First, conflict in the Central African Republic has caused a mass influx of internally displaced persons in the Central African Republic. USAID places statistical estimates around 697,000 internally displaced persons and 616,000 Central African Republic refugees seeking shelter in surrounding countries. These statistics by the United Nations in March show the mass influx of unrest, and how in an unstable economy the Somalian government is now expected to respond to. The lack of infrastructure with instability in the region has led to increasing troubles with issuing immediate and long term aid. This is a troubling issue as about 1.3 million people in the Central African Republic currently require assistance in order to combat malnutrition and food insecurity today. To make matters worse, 50,000 children who are under five years of age suffer from “severe acute malnutrition”, according to the United Nations. Tying into the unrest and lack of infrastructure, poverty is a rampant problem in the Central African Republic, recording the lowest GDP per capita in 2017. With poor incomes and GDP all around (an average of 400 per person), the food prices often become unaffordable and society in the Central African Republic becomes extremely malnourished. In order to respond to these alarming developments, the Central African Republic has taken both long and short-term considerations and presented solutions in collaboration with international nonprofits. Working hand-in-hand with ACTED, Samaritan’s Purse, Concern Worldwide, Mercy Corps, and Oxfam Intermór, the Somalian government provided immediate food assistance, distributing food vouchers, opening cash transfer and food-for-asset opportunities, provided proper infrastructure and housing, and supplementary local feeding programs for the children, internally displaced persons, malnourished, and refugees in the surrounding countries.

Bloc Positions:

Western: The western Bloc faced several unique challenges that may require different approaches than the other Blocs. Although malnutrition (in the United States, for example, about 88% of the population is food secure) is not as severe compared to other Blocs, new developments and conflicts have been shaking their previously firm foundation. The Western Bloc is leading the fight against malnutrition, an example being the US's creation of the international Feed the Future Initiative. Under Barack Obama's presidency, the program was funded with \$3.5 billion and was tasked to work in other Blocs to promote sustainable economic growth in order to maintain food security, especially in rural areas, through maintaining fixed prices and funding sustainable and productive agricultural practices.

Latin America and Caribbean: In the Latin American and Caribbean Bloc, about 6.1% of the population combined (accounting for over 37 million individuals) are food insecure, according to the World Health Organization. Although a significant number, it's to be noticed that this number is extremely small compared to other blocs and is impressive considering that in 1990, 68 million, or 15.7% of their population, was reported to not be properly nourished. Unlike the other Blocs, this Bloc's problem doesn't rest in the issue of the lack of food, as it actually has an agricultural production efficiency that produces enough food to sustain its entire population. This Bloc's problem is that because of socioeconomic factors and inefficient frameworks, individuals cannot have any access to safe, nutritious food in satisfactory quantities. To combat this, the Latin America and Caribbean Bloc has been working alongside initiatives like the Feed The Future Initiative, which collaborate with other programs like the FAO's regional Hunger-Free Latin America and Caribbean Initiative. Through their efforts in the past three decades, they have played a crucial role in increasing accessibility for all and decreasing the overall amount of malnourished individuals exponentially.

African: The African Bloc is one of the main Blocs affected by food insecurity, as over 239 million individuals were food insecure (about ¼ of the world's food insecure population). For example, one of the African Bloc's countries (Yemen) has one of the highest consistently ranked in the Global Hunger Index, with a 61.1 percent child stunting rate, 35 percent difference in the size of diets between genders, and a 17.9 percent wasting rate. Not only that, in 37 countries inside the African Bloc, there was a study conducted which showed how with a lack of potable water alone (not accounting for other factors like conflict exemplified by the South Sudan Civil War) decreased the production of agriculture by 54%. The African Bloc has been beginning to respond through initiatives like the Australia Africa Food Security Initiative, created by the Commonwealth in 2011 and seeks to distribute the Australian agricultural research while stimulating the private sector in Africa.

Asian-Pacific: The Asian-Pacific Bloc has a unique challenge when it comes to food insecurity. As 2030 approaches, many countries in this Bloc are becoming more urbanized and have made amazing progress towards economic growth. However, only a handful are set to meet the SDG goals, and it's predicted that despite the economic improvement in this Bloc, approximately 486.1 million people still remain malnourished due to insufficient production, inefficient distribution methods, low overall nutritional value per serving, and inflated/unaffordable prices. The progress is expected to slow exponentially and stagnate as 75% of maternal and child sanitation is also predicted to decrease in quality. Despite these shortcomings, the region has

been a major hub of initiative in order to combat food insecurity, with initiatives like the South Asia Food and Nutrition Security Initiative (SAFANSI) popping up in every corner of the map. The initiative has sought to combat chronic malnutrition through innovative solutions and research, first securing food security in 2010-2015 as its first phase and now advocating for change and improving our current capacity in the second phase of work. Endorsed by the World Bank and the European Commission, their impact has reached multiple countries and has touched on many different aspects of the issue the FAO listed in its eight departments.

Basic Solutions:

When researching solutions, delegates should consider three main points and delve into the various aspects of the issue through different subtopics of food insecurity like deforestation, water shortage, agricultural practices, land degradation, and others. One aspect that delegates should consider is data, as the FAO is one of the main facets of distributing data regarding food insecurity and data collection to promote more efficiency. Delegates may consider implementing a more accessible database or creating a new source of data, but should recognize that many resources are already collecting similar data regarding food insecurity and a call for a new information hub should imply innovative techniques or new information. Another aspect that delegates should consider is deforestation, which is often a necessary but destructive act that leads to detrimental results for both the farmer and the environment. Instead, recognizing their need and providing incentive for those farmers and presenting a simple solution to support both the livelihood of their household and the local nature would be the best solution. One example can be Nucleario, founded by a native Brazilian Bruno Rutman Pagnocelli who grew up with the horrors of deforestation in his home country. Recognizing the futility of current efforts to maintain and constantly plant new trees, he utilized biomimicry to mimic leaf litter with a small canister preventing the washing away of soil and overall humidity/moisture levels consistent, making water usage efficient while protecting seedlings from physical harm. Not only does this simplify the process of replanting forests, it's a cheap alternative that increases the overall success rate and hosts a variety of different plants, potentially trees that could become a second revenue stream for farmers, like a fruit tree. Of course, despite its cheap production and reliability, distribution to rural areas will be a challenge, and delegates should seek for ways to further incentivize and distribute both short and long-term solutions to overcome this limitation. Finally, delegates should consider those who are affected by food insecurity, especially those who are often farming for personal sustenance and are in rural areas where socioeconomic standards may be low, and seek to provide frameworks and practical solutions like the South Asia Food and Nutrition Security Initiative (SAFANSI) to provide immediate aid. Delegates, however, must consider the policies of other countries where this will be implemented, how effective it's been in various climates/environments, and differentiate between long and short term solutions. Delegates should also keep in mind the second topic of the East African Locust Crisis when researching solutions, and to properly balance the usage of solutions for both topics.

Questions to Consider:

1. What is the current food security situation in your country? Are there any conflicts or other circumstances that could potentially affect your citizens and their reliable access to nutritious food?
2. What has your country done to combat food insecurity both in and outside its borders? What made their initiatives successful, and what kinds of frameworks have your country allowed/favored?
3. What can be done to improve the sustainability and efficiency in agricultural methods currently practiced in various environments around the world? Is this feasible to be implemented in multiple settings worldwide, or would you need to modify this approach to each Bloc or country?
4. What different solutions can be implemented in order to maximize efficiency and utilize our limited resources, and will it be feasible and accessible especially in developing countries?
5. After providing immediate aid, what can be done to prevent future issues and increase resilience to potential crises?
6. What have the impacts of recent events had on food security, and what can be done to adapt to our current environment and fulfill our goals?

Sources:

1. About FAO.” *Food and Agriculture Organization of the United Nations*, www.fao.org/about/en/.
2. Mingst, Karen. “Food and Agriculture Organization.” *Encyclopædia Britannica*, Encyclopædia Britannica, Inc., 31 July 2006, www.britannica.com/topic/Food-and-Agriculture-Organization.
3. “2019 - Hunger Map.” *2019 - Hunger Map | World Food Programme*, www.wfp.org/publications/2019-hunger-map.
4. “Strategic Planning.” *FAO*, www.fao.org/about/strategic-planning/en/.
5. “World Hunger Statistics.” *Food Aid Foundation*, www.foodaidfoundation.org/world-hunger-statistics.html.
6. Food and Agriculture Organization of the United Nations. *Forests for Food Security and Nutrition*, www.fao.org/forestry/food-security/en/.
7. “Agriculture Causes 80% of Tropical Deforestation.” *Mongabay Environmental News*, 27 Sept. 2012, news.mongabay.com/2012/09/agriculture-causes-80-of-tropical-deforestation/.
8. AJ. Stunkard, MS. Faith, et al. “A Systematic Review and Meta-Analysis of Depression, Anxiety, and Sleep Disorders in US Adults with Food Insecurity.” *Journal of General Internal Medicine*, Springer US, 1 Jan. 1970, link.springer.com/article/10.1007/s11606-019-05202-4.

9. "Feature Articles Archive." *Ecosystem Marketplace*, www.ecosystemmarketplace.com/articles.
10. "Food Security and Nutrition Assistance." *USDA ERS - Food Security and Nutrition Assistance*, www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/food-security-and-nutrition-assistance/.
11. Ghosh, Iman. "Hunger Pandemic: The COVID-19 Effect on Global Food Insecurity." *Visual Capitalist*, 12 May 2020, www.visualcapitalist.com/covid-19-global-food-insecurity/.
12. "Deforestation: A New Threat to Global Food Security." *BORGEN*, 23 June 2014, www.borgenmagazine.com/deforestation-new-threat-global-food-security/.
13. "Goal 2: End Hunger, Achieve Food Security and Improved Nutrition and Promote Sustainable Agriculture - SDG Indicators." *United Nations*, United Nations, unstats.un.org/sdgs/report/2016/Goal-02/.
14. "History." *History | World Food Programme*, www.wfp.org/history.
15. Huang, Tina. "Which Countries Are Most Vulnerable to Locust Swarms?" *World Resources Institute*, 19 May 2020, www.wri.org/blog/2020/05/coronavirus-locusts-food-insecurity.
16. "Improving Food Security & Nutrition Around the World." *Feed the Future*, 30 June 2020, www.feedthefuture.gov/.
17. "United Nations Millennium Development Goals." *United Nations*, United Nations, www.un.org/millenniumgoals/bkgd.shtml.
18. "Decade, Water for Life, 2015, UN-Water, United Nations, MDG, Water, Sanitation, Financing, Gender, IWRM, Human Right, Transboundary, Cities, Quality, Food Security, FAO, BKM, World Water Day." *United Nations*, United Nations, www.un.org/waterforlifedecade/food_security.shtml.
19. Ehui, Simeon. "Protecting Food Security in Africa during COVID-19." *Brookings*, Brookings, 14 May 2020, www.brookings.edu/blog/africa-in-focus/2020/05/14/protecting-food-security-in-africa-during-covid-19/.
20. "FAO.org." *Food and Nutrition Security in Latin America and the Caribbean | FAO Regional Office for Latin America and the Caribbean | Food and Agriculture Organization of the United Nations*, www.fao.org/americas/prioridades/seguridad-alimentaria/en/.
21. Huang, Tina. "Which Countries Are Most Vulnerable to Locust Swarms?" *World Resources Institute*, 19 May 2020, www.wri.org/blog/2020/05/coronavirus-locusts-food-insecurity.
22. Institute, The Biomimicry. "Nucleário - Geoengineering Concept." *2020 Biomimicry Global Design Challenge*, challenge.biomimicry.org/en/custom/gallery/view/15877.
23. "UN Milestones - Food Security and Nutrition - A Global Issue - Research Guides at United Nations Dag Hammarskjöld Library." *United Nations*, United Nations, research.un.org/en/foodsecurity/un-milestones.

TOPIC B: The Locust Crisis in East Africa

Background:

The desert locust, scientifically labeled as the *Schistocerca Gregaria*, is a short-horned grasshopper species of the Acrididae family, which is the largest family of grasshoppers and contains about 11,000 independent species. According to the FAO, this special variant of pest is a unique problem to local agricultural practice: they have the potential to swarm in masses up to 150 million locusts per square kilometer as they drift in the same currents as the wind, up to 150 km daily. Even with smaller quantities (about 40 million would be a small to moderate size), locusts wreak havoc on the land they trespass over as they eat the equivalent of their total body weight (about 2 grams) daily, meaning that a moderately dense population in a square kilometer eats the same quantity of 35,000 average human beings, twenty camels, or six elephants. Locusts in general have always been an increasing problem because of their sheer quantity and their destructive nature. Often there are the “quiet periods”, where the overall number and density are low enough that serious damage cannot be done, locusts spread around 30 countries in three different continents, covering a space of about sixteen million square kilometers in size. When the climate becomes optimal for the locusts, the breeding season begins and females in ideal conditions are often able to lay 100 eggs in one sitting; in fact, the mating season can fluctuate, occurring sometimes three times a year. Not only that, but eggs can hatch into locust nymphs in 1-2 weeks opposed to the usual 6 months if the climate becomes especially damp. Nymphs, often with a greenish color, go through maturation (which often can only take weeks, all depending on the climate like the other steps) and develop into a full-fledged adult with wings with a brown-yellow tinted color. Throughout this whole process, the locusts feed and travel in packs, where natural and agricultural vegetation are mercilessly cut down. Due to this ability to reproduce and maintain a constant cycle of feeding and staying in groups, they are widely considered one of the most troubling pests in agriculture and named by the Food and Agricultural Organization as the most dangerous migratory pest species in the whole world. In the war against locusts, chemical pesticides have been the most common response in order to restrict their population and infesting in certain areas. However, under the 1989 program LUBILOSA, an alternative to its chemical relative, the biopesticide, has been taking over the market. Using fungi, pheromones, The material has been marketed under several different aliases, known as the Green Guard in Australia and the Green Muscle/NOV ACRID in Africa. The safety of the chemical pesticides on the environment is unconfirmed, but usage of the biopesticides led to a death rate for locusts of 90%. However, this solution was mainly effective on budding locusts who have not evolved to grow out their wings yet and were in their green, developing phase, and it often took 2-10 days for the locusts to die out and be exterminated (a much longer time interval than chemical alternatives). Currently, the Horn of Africa has been suffering with two different epidemics, COVID-19 and the locusts. However, this is not the first locust swarm experienced in this Bloc; from 2003–2005, the desert locust upsurge in Western Africa was the biggest outbreak in the previous 15 years. Starting in small quantities in Mauritania, Mali, Niger, and Sudan during the fall of 2003, this soon grew out of control as unusual weather patterns led to an

unusual mating season where the optimal time became extended to 6 months. Over 20 countries were affected by this influx of locusts, and although 130,000 square kilometers were cleansed through various methods to ensure no infestation of locusts would occur. Many argue that the food crisis in Africa was jump started by several factors and often include this incident, with good reason. The Food and Agriculture Organization estimated that the total harvest lost from this crisis equated to around 2.5 billion dollars, and the cost of fighting this locust outbreak was at least 400 million dollars. In fact, the Director commented that he was confident the costs well exceeded those estimates. Reflecting on the history of the costs of desert locusts, it's understandable that many experienced leaders are wary of this development. The current swarm began in early 2019, as the climate in East Africa began to have more humid and wet weather, a climate ideal for locusts to thrive. According to the United Nations, Somalia and Ethiopia have suffered a locust swarm that beats any previous swarms for the past 25 years, and in the previous six months the population of the locusts harassing East Africa has increased 400 times over. According to the Food and Agricultural Association, this recent exodus of desert locusts poses a international threat, as costs will be exponentially larger than previous interventions if not treated properly and as a critically food insecure region (according to the Food and Agriculture Organization, 28 million people in Eastern Africa were food insecure and 9 million children suffered from acute malnutrition) already as 42 million people suffer from severe acute food insecurity combined in the three main regions affected, the consequences and fatalities can spike into the millions.

United Nations Involvement:

The United Nations have been heavily involved in the process of mitigating the impacts of recent locust swarms and has provided numerous alternatives. Especially regarding the recent locust outbreak, the United Nations has had a clear-cut plan announced to the public and has seen tremendous results. The UN has focused its efforts on gathering data while raising awareness of the situation through various initiatives. For example, along with their numerous publications detailing the effects of the locust swarms on their website, the Food and Agriculture Organization began the Locust Hub, an initiative that seeks to bring resources and maps about the current movement of the swarms, their dangers and implications, and solutions the United Nations are trying to promote. Additionally, the Food and Agricultural Organization has published the Special Fund for Emergency and Rehabilitation Activities report, detailing their needs for a proper response while formulating a plan on how to combat the issue with a multifaceted approach to gain the best results. Currently, they've decided that proper mitigation measures will cost roughly a total of 321 million dollars, and they've raised about 200 million dollars, about 30 million coming from external donors outside of United Nations affiliation. Bukar Tijani, the Assistant Director-General of the Food and Agriculture Organization and the Agriculture and Consumer Protection Department, have made numerous statements of the work the Food and Agricultural, once claiming that 750 on-ground operators have been trained by the food and Agriculture Organization, which has allowed for the treatment of 240,000 hectares in 10 countries. Separate from this work, an additional 365,000 total hectares (the main source of food in the region) for East Africa and Yemen were saved through their efforts, which accounts

for about 720,000 cereal and 350,000 individual households saved from malnutrition. Alongside the United Nations, the international community has had a vast and swift response to this crisis. One example can be found with the work in the International Rescue Committee and Docol, who have been some of the forerunners of the fight against the locusts. Not only are they aiming to raise 2 million dollars from their partners and the United Nations, but they have recognized 5,000 households that would be in risk of danger due to lower labor returns and have taken appropriate action to ensure their safety. Another international response outside of the Food and Agriculture Organization was UNICEF's 190 partners coming together to combat another aspect of this issue: immediate humanitarian assistance. According to their 2020 report, about 1 million individuals have received hygiene assistance, while 500,000 women and children have received proper healthcare and nutritional services. In addition, 500,000 independent households were able to be contacted through social mobilizers to raise awareness of COVID-19 and stop the spread to make sure the labor force is not weakened.

Case Study: Somalia's Locust Infestation

Ever since the beginning of the worst locust swarm in decades during the unusually wet seasons of early 2019, Somalia has been one of the most impacted countries in the Horn of Africa. Its western borders are flooded with these pests (and the 18 independent swarm groups from Kenya slowly approaching the border), about $\frac{1}{2}$ of the country is malnourished and $\frac{1}{4}$ cannot obtain daily nutritional needs (often any food at all for days). Ripping through hundreds of thousands of hectares full of crops, Somalia has lost its past two harvest cycles and is expected to increase its malnourished population by 3.5 million by September 2020. With diminishing returns, the outlook of the agricultural market has significantly dipped, causing a small recession while malnutrition runs amok. The climate in the region has been slowly stabilizing as well, but there is speculation that the climate is still wet enough to host a fourth generation of locusts. This is a pressing concern as a fourth cycle of locusts can create a swarm 5,000 times the current size of the swarms, meaning indefinite doom. Some even estimate that the next three months will still be humid enough for the locusts to be able to breed, although the number is still heavily disputed. Finally, the COVID-19 situation has delayed the responses available to this increasingly growing population. With the aid of the United Nations and the western Bloc, several plane-loads of pesticide were to be sent over but due to border closures, tonnes of pesticide was not able to be used. Not only that, but the priority to respond to the novel coronavirus has led much of the funding in the United Nations and other international response organizations away from the issue, further delaying the aid Somalia and the other East African countries need. In response to this, the Somalian government has issued a national emergency declaration, stating that the country should focus its efforts to mitigate this issue. In recognizing the problem, they have taken the issue to the United Nations, where various United Nation branches like UNICEF have pledged to allocate about 129 million dollars for the locust response along with an additional 35 million dollars for the COVID-19 response. Through this financial assistance, they plan to carry out national operations similar to Pakistan's beneficial programs.

Bloc Positions:

Western: The European countries in the Western Bloc have been extremely concerned with the infestation, as locusts often travel up the northwestern tip of Africa into Spain and other European countries. Aside from creating biopesticides, this Bloc has been crucial in the funding and the innovation of solutions. For example, a rugged handheld device called the eLocust3 was heavily funded by numerous initiatives in the west, of which 450 independent devices have been distributed to the affected areas. Using satellite imagery and information processing, the device was reported to have been distributed to over 100,000 users and has seen success in mapping the flow of the locust swarms. The federal governments also have not been shy to show their support, USAID alone donating 20 million dollars in order to pick up the pace for pest removal services and practices.

Latin America and Caribbean: Although the species of the locusts are different, The Latin American and Caribbean Bloc has also suffered from the locust infestation recently. Originating from Paraguay and traveling through into Argentina on the 21st of May, many swarms were reported devastating the local farmers. This Bloc has been active in the combatting of this issue as well, accepting aid from different countries and especially the Arizona State university's locust lab, whose initiative in Latin America has helped map the flow of locusts and raise awareness to combat the current swarms through advice sharing.

African: Containing some of the world's most fragile and food insecure countries, the recent epidemiological pandemic did not make the situation easier to handle. Once a rare spot in the world where the impact of COVID-19 was minimal, the Bloc now faces 1,147,369 confirmed cases and 26,618 individual deaths according to the Africa Food and Agriculture Organization. Not only that, 17 million and 25 million additionally are expected to face acute food insecurity due to the combination of the recent epidemic and the locusts. It is also worthy to mention that Somalia had declared a national state of emergency similar to how Pakistan reacted. However, as the main Bloc in question, the Horn of Africa has placed great emphasis on recent developments. For example, the Resilience Team in Africa is an initiative that partnered with the Food and Agriculture Organization that has worked to increase the resilience of independent, local communities through various efforts like awareness raising and proper agricultural practices for protection.

Asian-Pacific: Especially in the western sector of this Bloc, the risk is immense as the spread of the swarm is beginning to head towards the Middle East and the Indian region. Pakistan, one of the few countries closest to the swarm in the Bloc, has declared a national state of emergency in response to this growing issue and has begun national movements in order to mitigate the impacts of the swarm. Numerous proposals have been passed in the Ministry of National Food Security and Research sector, and often unnamed projects that are led by civil servants are bringing personal aid to private citizens.

Basic Solutions:

When researching solutions, delegates should consider both short and long term solutions that can mitigate the financial damage to locals while empowering the native environment in order to be able to persist future swarms. Delegates must also consider numerous variables (weather, climate, feasibility, incentive, past actions and initiatives) when deciding on solutions to present to the committee. One great solution is the “Catch locusts. Earn money. Save crops” project recently created by civil servant of the Ministry of National Food Security and Research Muhammad Khurshid, and one of the Pakistan Agricultural Research Council’s biotechnologists, Johar Ali. Combining their expertise in various fields, the duo were able to concoct an innovative solution which incentivized farmers who had lost their crop to the locusts to catch the locusts in their land for 20 PKR per 1 kilogram of locusts. Through trapping agencies, they’ve been advising locals on the most efficient ways to catch locusts (catching them with any cheap nets at night, when they stay motionless, is the most effective strategy). In their experience, they’ve reported that individual communities often bring 7 tonnes of locust every night, and 20,000 PKR (or about 125 dollars) were earned by each person every night. With good income as well, the collected locusts were transported to a chicken feed conversion factory, where the locusts are turned into a protein-filled nutritious feed for the 1.5 billion chickens residing in Pakistan currently. This allowed farmers to cut back on their expenses on chicken feed while also providing the farmers with a source of food. Of course, this solution presents an amazing possibility. Local farmers who’ve been devastated with the locust swarms are able to gain another form of income, food insecurity is combatted, and locust populations are incentivized to be kept in control all in one solution. However, delegates must keep in mind that this is not a panacea; many of the areas affected by locust swarms are affected by billions, if not trillions of locusts, and several tons (although quite significant in number) will not fix the issue of the general swarms. Not only that, although the solution was green and sustainable, the farmers did not receive immediate aid for the food insecurity they faced and the markets were reported as lacking most of the food that the farmers could afford. Due to its large impact potential, delegates are welcome to diverge away from the Horn of Africa and the desert locust specifically to propose general solutions regarding locust prevention. It is advised, however, that delegates tie the solution back to the current situation in East Africa, and discuss the benefits the solution will bring to the region and the surrounding countries affected by this infestation. Delegates may also consider tackling climate change as the difference in current weather patterns has caused a large shift in locust population, but this should be kept to a minimal amount.

Questions to Consider:

1. Reflect on your country and your country's Bloc. Has your country suffered from any locust swarms? Has your Bloc suffered? If so, how has your country responded? Has it been part of any response initiatives?
2. What is the main driving force for outbreaks on ? Is there a method to empower the local community so that they can be prepared for the next batch of swarms while increasing the food security of the region?
3. Is the usage of current and proposed solutions, like pesticides and various insecticides, sustainable for the environment and the local population? What negative effects could heavy reliance entail?
4. With the effects of the current pandemic, how would traditional methods to stop locust swarms need to be modified?
5. Will your solution be implementable in the East African region and especially the rural areas, where transportation and aid are often challenging to deliver? Is your solution accessible financially and technologically? Will the host country along with the locals be accepting of your solution?
6. What impact can the current East African locust swarm have on your country?

Sources:

1. "Battle 'Not Yet over' against Locust Invasions in East Africa and Yemen || UN News." *United Nations*, United Nations, news.un.org/en/story/2020/05/1063672.
2. "COVID-19 Daily Updates." *Africa CDC*, 6 July 2020, africacdc.org/covid-19/.
3. "DESERT LOCUST CRISIS." *Desert Locust Crisis : FAO in Emergencies*, www.fao.org/emergencies/crisis/desertlocust/en/.
4. "Desert Locust Situation Update 14 August 2020." *FAO Site*, www.fao.org/ag/locusts/en/info/info/index.html.
5. "Eastern Africa: Urgent Action Required to Prevent a Major Food Crisis." : *FAO in Emergencies*, www.fao.org/emergencies/fao-in-action/stories/stories-detail/en/c/1300765/.
6. *FAO and Partners Stress Urgent Need on Desert Locust Response*, www.fao.org/africa/news/detail-news/en/c/1260476/.
7. "Fight against Desert Locust Swarms Goes on in East Africa despite Coronavirus Crisis Measures | | UN News." *United Nations*, United Nations, news.un.org/en/story/2020/04/1061482.
8. "Fight against Desert Locust Swarms Goes on in East Africa despite Coronavirus Crisis Measures | | UN News." *United Nations*, United Nations, news.un.org/en/story/2020/04/1061482.

9. “Kenya Beats Back Desert Locust Upsurge for Now but East Africa Remains at Risk.” : *FAO in Emergencies*, www.fao.org/emergencies/fao-in-action/stories/stories-detail/en/c/1300728/.
10. Khan, Rina Saeed. “Pakistan's Solution to the Locust Invasion? Turn the Pests into Chicken Feed.” *Scroll.in*, [Scroll.in](http://scroll.in), 28 May 2020, scroll.in/article/963175/pakistans-solution-to-the-locust-invasion-is-to-turn-the-pests-into-chicken-feed.
11. *Locust Hub*, locust-hub-hqfao.hub.arcgis.com/.
12. “More Funding Needed to Combat Locust Swarms 'Unprecedented in Modern Times' || UN News.” *United Nations*, United Nations, news.un.org/en/story/2020/02/1058041.
13. “Resources Detail.” *Food and Agriculture Organization of the United Nations*, www.fao.org/resilience/resources/resources-detail/en/c/278608/.
14. “Somalia Declares Emergency over Locust Swarms.” *BBC News*, BBC, 2 Feb. 2020, www.bbc.com/news/world-africa-51348517.
15. “Special Fund for Emergency and Rehabilitation Activities (SFERA): Annual Report 2019.” : *FAO in Emergencies*, www.fao.org/emergencies/resources/documents/resources-detail/en/c/1301073/.
16. “Teaming up to Defend against Locusts.” : *FAO in Emergencies*, www.fao.org/emergencies/fao-in-action/stories/stories-detail/en/c/1303754/.
17. “Teaming up to Defend against Locusts.” : *FAO in Emergencies*, www.fao.org/emergencies/fao-in-action/stories/stories-detail/en/c/1303754/.