CRISPR Plan Aff

# Util FW -

#### I affirm the resolution; The member nations of the World Trade Organization ought to reduce intellectual property protections for medicines.

#### My value is morality, as ought in the resolution implies a moral question.

#### Prefer ---

#### Binding- Pain and Pleasure are the only things with intrinsic disvalue and value, respectively. If I put my hand on a hot surface, I will pull my hand away – ethics have to be binding in order for obligations to be present.

(we have to know what is right and wrong for obligations to be present in the first place.)

#### Pleasure and pain are intrinsically valuable.

Moen 16 [Ole Martin Moen, Research Fellow in Philosophy at University of Oslo “An Argument for Hedonism” Journal of Value Inquiry (Springer), 50 (2) 2016: 267–281] SJDI

Let us start by observing, empirically, that a widely shared judgment about intrinsic value and disvalue is that pleasure is intrinsically valuable and pain is intrinsically disvaluable. On virtually any proposed list of intrinsic values and disvalues (we will look at some of them below), pleasure is included among the intrinsic values and pain among the intrinsic disvalues. This inclusion makes intuitive sense, moreover, for there is something undeniably good about the way pleasure feels and something undeniably bad about the way pain feels, and neither the goodness of pleasure nor the badness of pain seems to be exhausted by the further effects that these experiences might have. “Pleasure” and “pain” are here understood inclusively, as encompassing anything hedonically positive and anything hedonically negative.2 The special value statuses of pleasure and pain are manifested in how we treat these experiences in our everyday reasoning about values. If you tell me that you are heading for the convenience store, I might ask: “What for?” This is a reasonable question, for when you go to the convenience store you usually do so, not merely for the sake of going to the convenience store, but for the sake of achieving something further that you deem to be valuable. You might answer, for example: “To buy soda.” This answer makes sense, for soda is a nice thing and you can get it at the convenience store. I might further inquire, however: “What is buying the soda good for?” This further question can also be a reasonable one, for it need not be obvious why you want the soda. You might answer: “Well, I want it for the pleasure of drinking it.” If I then proceed by asking “But what is the pleasure of drinking the soda good for?” the discussion is likely to reach an awkward end. The reason is that the pleasure is not good for anything further; it is simply that for which going to the convenience store and buying the soda is good.3 As Aristotle observes: “We never ask [a man] what his end is in being pleased, because we assume that pleasure is choice worthy in itself.”4 Presumably, a similar story can be told in the case of pains, for if someone says “This is painful!” we never respond by asking: “And why is that a problem?” We take for granted that if something is painful, we have a sufficient explanation of why it is bad. If we are onto something in our everyday reasoning about values, it seems that pleasure and pain are both places where we reach the end of the line in matters of value.

#### Actor Spec – Governments have an obligation to protect their citizens – as it is one of the main functions of government. Proven through laws that are designed to stop pain towards other subjects – murder, robbery, etc.

#### Death is bad – one cannot pursue pleasure if they are dead. This means that we should always try to prevent death to allow for people to pursue and maximize pleasure, as pleasure is good.

#### In the face of Moral Uncertainty, extinction risks MUST come first. Extinction is where there is no pleasure and only pain, making it the worst possible situation.

#### Utilitarianism is needed if extinction risks are brought up

Bostrom 13 - Nick Bostrom, 2013, [*Global Policy*, Vol 4, Issue 1 (2013): 15-31], <https://www.existential-risk.org/concept.html>, Section 3.4

These reflections on moral uncertainty suggest an alternative, complementary way of looking at existential risk; they also suggest a new way of thinking about the ideal of sustainability. Let me elaborate. Our present understanding of axiology might well be confused. We may not now know — at least not in concrete detail — what outcomes would count as a big win for humanity; we might not even yet be able to imagine the best ends of our journey. If we are indeed profoundly uncertain about our ultimate aims, then we should recognize that there is a great option value in preserving — and ideally improving — our ability to recognize value and to steer the future accordingly. Ensuring that there will be a future version of humanity with great powers and a propensity to use them wisely is plausibly the best way available to us to increase the probability that the future will contain a lot of value. To do this, we must prevent any existential catastrophe

#### Extinction First –

#### Prefer --

#### Extinction Outweighs – irreversible impacts must always come first.

#### Objectivity – body count is the most objective way to calculate impacts because comparing suffering is unethical.

#### Moral Obligation – allowing people to die in unethical and should be prevented because it creates ethics towards other people.

#### We must act on Extinction–

Brian Kahn; 1/9/18; Quotes Jonathan Schell’s 1982 article in the New Yorker. Kahn 18:  **That’s why what journalist Jonathan Schell wrote about nuclear holocaust in The New Yorker in 1982 still rings as true today as ever:**

<https://earther.gizmodo.com/this-is-what-nuclear-war-would-mean-for-life-on-earth-1821910459>

Schell 82

**Schell 82:** “To employ a mathematical analogy, we can say thatalthough the risk of extinction may be fractional, the stake is, humanly speaking, infinite, and a fraction of infinity is still infinity. In other words, once we learn that a holocaust might lead to extinction we have no right to gamble, because if we lose, the game will be over, and neither we nor anyone else will ever get a another chance.”

# Advantage 1 – Pandemics

#### CRISPR prices are extremely high right now, and are inaccessible – patents are to blame for this

Sherkow 17 Jacob S. Sherkow, [Yale J Biol Med.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5733839/) 2017 Dec; 90(4): 667–672. Published online 2017 Dec 19. PMCID: PMC5733839 PMID: [29259531](https://www.ncbi.nlm.nih.gov/pubmed/29259531) Focus: Genome Editing

Patent issues surrounding CRISPR, the revolutionary genetic editing technology, may have important implications for the public health. Patents maintain high prices for novel therapies, limiting patient access. Relatedly, insurance coverage for expensive therapies is waning. Patents also misallocate research and development resources to profitable disease indications rather than those that necessarily impinge on the public health. And it is unclear how CRISPR therapies will figure into the current regulatory framework for biosimilars. Policy makers and physicians should consider these issues now, before CRISPR therapies become widely adopted—and entrenched—in the marketplace.

Similarly, patents would allow developers of CRISPR therapies to price their products in a way that makes up for low patient demand, either because the disease indication sought to be treated is rare or, like Glybera, the treatment is a one-time dose [[14](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5733839/#R14)]. Glybera, in fact, provides a sterling example of patents covering rare-indication, permanent gene therapies; the treatment is protected by at least eight patent families, covering the viral vector, protein expression systems, and manufacturing processes, with multiple patents and patent applications for each family [[21](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5733839/#R21)]. CRISPR developers are famously making use of extensive patent families like these, with enormous licensing fees paid to collaborators [[4](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5733839/#R4)]. The ultimate retail prices of these and related therapies can be astronomical. Novartis’s Kymriah (tisagenlecleucel)—the first approved CAR-T therapy, albeit without using CRISPR—costs $475,000 [[22](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5733839/#R22)]. It stands to reason that such patents will likely make any CRISPR therapies for rare diseases similarly expensive.

The potential price of patented CRISPR therapies also illuminates a larger point about drug pricing: it allows developers to set profit maximizing prices independent of the marginal costs of production [[23](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5733839/#R23)]. That is, patents allow drug developers to price their products as high as the market will bear regardless of how much therapies cost to make. This is important for CRISPR-based therapies sought to replace expensive-to-produce, multi-dose drugs. Monoclonocal antibody therapy, for example, is typically costly and difficult to manufacture, store, and provide to patients [[24](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5733839/#R24)]. CRISPR-based alternatives may ultimately be cheaper to produce. But patent coverage of the product allows the therapy’s developer to set prices far enough above this manufacturing cost as to make it irrelevant [[23](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5733839/#R23)]. The ease, cost, and permanency of CRISPR therapies do not necessarily mean they will be cheaper than companion therapies, especially where patents are involved.

#### The Prevalence of pandemics is set to steadily increase in the future.

UNESCO 20 ; UNESCO, **UNESCO is among IPBES’ main institutional United Nations partners, together with FAO, UNDP and UNEP. UNESCO's Local and Indigenous Knowledge Systems programme (LINKS) hosts the Technical Support Unit for the IPBES Task Force on Indigenous and Local Knowledge Systems, 10/29/20,** [**https://en.unesco.org/news/pandemics-increase-frequency-and-severity-unless-biodiversity-loss-addressed**](https://en.unesco.org/news/pandemics-increase-frequency-and-severity-unless-biodiversity-loss-addressed)**,**

**This report released 29 October is the result of a virtual workshop between 22 leading experts who agree that escaping the era of pandemics is possible, but that this will require a seismic shift in approach from reaction to prevention.**

There is a clear link between **global health** pandemicsand **the** biodiversity and climate crisis **we are experiencing. The** root causes of the pandemics are **also the driving force behind the erosion of biodiversity and climate change:** human activities**.** Changes in land use**, the expansion and intensification of agriculture and the trade and consumption of wildlife, disrupt ecosystems,** promote **proximity between humans and wildlife, livestock and humans and thus with** the pathogens they carry.

**The report warns that** future pandemics will emerge more often, spread more rapidly, do more damage to the world economy and kill more people **than COVID-19** unless there is a transformative change in the global approach to dealingwith **infectious** disease**s, from reaction to prevention. The experts estimate that the cost of risk reduction to prevent pandemics is 100 times less than the cost of responding to such pandemics, "providing strong economic incentives for transformative change". This will require a deep reassessment and transformation of the relationship between humans and nature, and of the unsustainable consumption practices leading to biodiversity loss, climate change and the emergence of pandemics.**

**The experts recommend the establishment of a new intergovernmental partnership on health and trade, and the creation of a high-level intergovernmental council on pandemic prevention. They also stress the importance of valuing the commitment and knowledge of indigenous peoples and local communities.**

**Through its biodiversity strategy, UNESCO mobilizes its networks and partners to work on a set of values and principles that should guide actions to restore, conserve and transmit the value of biodiversity. We must transform the way we live on Earth together with other species of the living world, and establish a new pact.**

#### Disease is an existential risk--- encloses AND outweighs other threats

Pamlin & Armstrong 15, Dennis Pamlin, Executive Project Manager Global Risks, Global Challenges Foundation, and Stuart Armstrong, James Martin Research Fellow, Future of Humanity Institute, Oxford Martin School, University of Oxford, February 2015, “Global Challenges: 12 Risks that threaten human civilization: The case for a new risk category,” Global Challenges Foundation, p.30-93, https://api.globalchallenges.org/static/wp-content/uploads/12-Risks-with-infinite-impact.pdf

4 Global A pandemic (from Greek πᾶν, pan, “all”, and δῆμος demos, “people”) is an epidemic of infectious disease that has spread through human populations across a **large region**; for instance **several continents**, or even **worldwide**. Here only worldwide events are included. A widespread endemic disease that is stable in terms of how many people become sick from it is not a pandemic. 260 84 Global Challenges – Twelve risks that threaten human civilisation – The case for a new category of risks 3.1 Current risks 3.1.4.1 Expected impact disaggregation 3.1.4.2 Probability Influenza subtypes266 Infectious diseases have been one of the greatest causes of mortality in history. Unlike many other global challenges pandemics have happened recently, as we can see where reasonably good data exist. Plotting historic epidemic fatalities on a log scale reveals that these tend to follow a **power law with a small exponent**: many plagues have been found to follow a power law with exponent 0.26.261 These kinds of power laws are **heavy-tailed**262 to a significant degree.263 In consequence most of the fatalities are accounted for by the **top few events**.264 If this law holds for future pandemics as well,265 then the majority of people who will die from epidemics will likely die from the single largest pandemic. Most epidemic fatalities follow a power law, with some extreme events – such as the Black Death and Spanish Flu – being even more deadly.267 There are other grounds for suspecting that such a high impact epidemic will have a greater probability than usually assumed. All the features of an extremely devastating disease already exist in nature: essentially incurable (Ebola268), nearly always **fatal** (rabies269), **extremely infectious** (common cold270), and **long incubation periods** (HIV271). If a pathogen were to emerge that somehow combined these features (and influenza has demonstrated **antigenic shift**, the ability to combine features from different viruses272), its death toll would be extreme. Many relevant features of the world have changed considerably, making past comparisons problematic. The modern world has better sanitation and medical research, as well as national and supra-national institutions dedicated to combating diseases. Private insurers are also interested in modelling pandemic risks.273 Set against this is the fact that **modern transport** and dense human population allow infections to spread much more rapidly274, and there is the potential for urban slums to serve as breeding grounds for disease.275 Unlike events such as nuclear wars, pandemics would not damage the world’s infrastructure, and initial survivors would likely be resistant to the infection. And there would probably be survivors, if only in isolated locations. Hence the risk of a civilisation collapse would come from the rippleeffect of the fatalities and the policy responses. These would include political and agricultural disruption as well as economic dislocation and damage to the world’s trade network (including the food trade). Extinction risk is only possible if the aftermath of the epidemic **fragments and** diminishes human society to the extent that recovery becomes impossible before humanity succumbs to **other risks** (such as **climate change** or **further pandemics**). Five important factors in estimating the probabilities and impacts of the challenge: 1. What the true probability distribution for pandemics is, especially at the tail. 2. The capacity of modern international health systems to deal with an extreme pandemic. 3. How fast medical research can proceed in an emergency. 4. How mobility of goods and people, as well as population density, will affect pandemic tran

# Advantage 2 – Food Insecurity

#### Current food consumption habits are unsustainable – warming, population growth, food requirements, loss of arable land, and demand for resource-intensive foods all mean a shortage is imminent

Goldstein and Oken 4/22 [(Gordon, an adjunct senior fellow at the Council on Foreign Relations (CFR). From 2010 to 2018, he was also a managing director at Silver Lake, the world’s largest investment firm in the global technology industry. Goldstein represented Silver Lake as a member of the U.S. delegation to the 2012 World Conference on International Telecommunications in the United Arab Emirates and also served on the American delegation to the 2014 UN International Telecommunication Union Plenipotentiary Conference in South Korea.) (Erik, Global Chairman, Investment Banking, J.P. Morgan Presider) “America’s New Challenge: Confronting the Crisis in Food Security” Council on Foreign Relations, 4/22/2021] TDI

The global dimensions of food instability are staggering. As the global population grows to a projected 10 billion in 2050, with a concurrent growth in income, overall food requirements are forecast to increase [PDF] by more than 50 percent. The demand for resource-intensive foods like meat and dairy is projected to grow by 70 percent.

The crisis in food sustainability displays a disturbing daily cadence. The world has lost 1,000 football fields worth of forest every hour, almost 30 million acres annually. According to a recent scientific study, climate change has diminished global food productivity by more than 20 percent over the past 60 years. If crop and pasture yields continue to grow as projected, by 2050 agricultural land will need to increase by an area nearly twice the size of India.

Not surprisingly, the world’s most populous and wealthy countries contribute the most to the crisis in food sustainability. Roughly 40 percent of greenhouse gas emissions from agriculture are clustered in four countries—the United States, China, India and Brazil. Since 1990, roughly 24 percent of global Greenhouse Gas Emissions can be attributed to the food system and our disproportionate reliance on livestock. Further exacerbating the problem is the methane produced in the agriculture industry, which is ~30 to ~80 times as deleterious to the environment as carbon dioxide.

#### Food insecurity causes state collapse, nuclear war, and terror – extinction

DeFeo 17 [(Michael, Regional Organizing Director at Arizona Democratic Party who graduated in 2019 with a bachelor’s degree in political science from Gettysburg College) “Food Insecurity and the Threat to Global Stability and Security in the 21st Century” Inquires Journal, 2017] TDI

Poor Institutional Capacity

Although the developed world experiences food insecurity, it is the lack of infrastructure and government institutions in developing countries that contribute to civil wars and state fragility. Foreign exchange shortages can provoke food and fuel scarcities that force governments to spend less on essential services and public goods. Accordingly, citizens see their medical and educational entitlements melt away. Such circumstances create breeding grounds for internal conflict.

All violent conflicts destroy land, water, and social resources for food production. Developing countries do not have massive industrial machines that can remedy such losses, therefore, the population will suffer. Food insecurity is a recruitment tool for violent extremist groups. Promising food and water to a starving population, especially in urban areas, makes recruiting young and disgruntled youth easier (Messer & Cohen, 2015). Syria had limited institutional capacity to deal with the mass displacement, and that lead to a civilian revolt and recruitment into the Islamic State.

Countries that fail to provide their people with basic services often experience gross economic inequality, and even human-rights violations, as was the case in both Syria and Sudan. Both countries are classified as Least Developed Countries (LDCs). LDCs are distinguished not just by their widespread poverty, but also by their structural weaknesses in economic, institutional, and human resources that make them unable to maintain stability during a drought. The combination of drought and political instability or violence led to famine in Somalia (another LDC) in 2011. Even with urgent humanitarian action, the country still plunged into chaos and violence (Messer & Cohen, 2015). Severe drought, like Somalia's, may result in crop failure in major food producing areas, which in turn is a significant threat to social stability and peace (Wischnath, 2014).

Sometimes droughts of exceptional severity (and the civil unrest that follows) are attributed to climate change, especially in particularly arid regions. Scholars are divided on whether climate change actually impacts civil conflict. That is why African countries like Somalia and Sudan are prime case studies. Africa has the lowest percentage of irrigated land in the world. Agriculture is the most important sector of most African countries. Very high percentages of civilians in African countries live in rural areas. Those characteristics combined with low economic and state capacity make African, particularly sub-Saharan African countries the most vulnerable to climate change and civil instability. Africa experiences more civil conflict than other parts of the world, therefore, it is possible to argue that a lack of climate variability effect on civil conflict in Africa would make it unlikely to cause civil conflict in other parts of the world (Koubi et al., 2012). Secretary-General of the United Nations, Ban Ki-moon attributed the conflict in Darfur to an ecological crisis arising “at least in part from climate change” (Ki-moon, 2007). The Fourth Report of the Intergovernmental Panel on Climate Change assessed that climate change will continue to worsen. As it does, it will increase food shortages, which may lead to conflict (AR4, 2007). The report also stated that forced displacement and rising social instability is the most likely result of food insecurity. This is almost exactly what happened in Syria. The first step towards conflict might be food riots, which often occur during a food shortage or when there is an unequal distribution of food. These are usually caused by food price increases, food speculation, transport problems, or extreme weather. In 1977, Egyptians became so desperate for food that they attacked shops, markets, and government buildings just to obtain bread and grain (Paveliuc-Olariu, 2013).

Moreover, civil war can create economic opportunities for certain groups, so they try to avoid resolving the conflict. Urban elites in Somalia profited tremendously off of internal conflict because of the absurd amount of foreign aid that was pumped into the country and then largely stolen (Shortland, Christopoulou, & Makatsoris, 2013). Once a country experiences a food shortage, it may lead to protests, riots, and violence. This all contributes to state instability, but it is not the state alone that suffers. If one country fails, it creates a crisis that could destabilize an entire region.

State Failure and the Threat to Regional Stability

Although fragile governments in developing countries are at a heightened risk for internal conflict that could topple them, that risk also threatens the country’s neighbors. After the Soviet Union collapsed in 1991, Afghanistan found itself alone in regional trade. Without a guaranteed source of cereal, the government had to turn to Iran and Pakistan for support in order to avoid its own collapse (Clarke, 2000). Unlike Afghanistan, many other developing countries have been unable to work together on food and water security. Thirteen of the twenty-two members of the Arab League rank among the most water-scarce nations on the planet. Food cannot be grown without water. The majority of the world is engaged in some sort of agreement with neighboring countries to share water supplies, but thirty-seven countries still do not share their water resources (El Hassan, 2014). Lack of cooperation can cause civil as well as interstate conflict. South Sudan legally has no share of the Nile River and the effects of that lack of water access have been mass starvation and violence.

The effects of climate change, water shortages, and mass migrations have resulted in acute food insecurity not just in Syria, but across the region (El Hassan, 2014). Food insecurity, plus an increase in the prices of staple foods have destabilized much of the area. The Arab Spring was the beginning of multiple conflicts that have affected countries like Syria, Egypt, and Libya. In Syria, food insecurity resulted in mass violence and has now created an international crisis involving multiple world powers.

Food insecurity is such a threat to entire regions because people cannot live without food and people want to live. When a region experiences food scarcity and that population feels threatened by hunger, it will relinquish dependency on any political authority and take up arms in order to ensure its well-being (Paveliuc-Olariu, 2013). This is human survivalism. It is important for developing countries in areas that are at risk for food insecurity to formulate policy that ensures aid goes to the food insecurity hotspots so as to maintain stability.

South Sudan experienced what happens when countries do not work together to feed their people. After gaining its independence from Sudan in 2011, 360,000 South Sudanese refugees returned to the country. This influx of human beings, coupled with drought conditions exacerbated economic strain and drove food prices up. The increases were the result of trade restrictions between Sudan and South Sudan. The overall reason for the food crisis, however, was the government's preoccupation with fighting a political and quasi-ethnic civil war rather than negotiating fair access to the Nile River (Tappis et al., 2013). Because of South Sudan’s weak institutions, it has done little to address the food shortage. That inability to solve the problem fuels insurgent recruitment that continues the bloodshed in South Sudan. The conflict is keeping regional rivalries alive with Uganda, Kenya, Ethiopia, and Sudan; all of whom have attempted to intervene in South Sudan militarily to bring about stability (Council on Foreign Affairs 2016). Aside from South Sudan, multiple conflicts across Africa are consuming massive amounts of diplomatic, political, and humanitarian resources in a region that faces a multitude of threats.

South Sudan, Somalia, and Syria are all failing states that are experiencing huge food shortages, humanitarian crises, and most importantly, extreme civil violence. South Sudan is mired in a civil war. Somalia is controlled by warlords and terror organizations. Syria has both of those problems. Conflict has turned these countries into “breeding grounds of instability, mass migration, and murder” rather than sovereign states with a monopoly on violence and control over their borders (Rotberg, 2002). To be sure, failing states are a concern because of their ability to destabilize entire regions, but states at risk for failure are also very important. Countries like Pakistan that are politically unstable and have food and water shortages could result in uncontrollable civil upheaval (The Fund for Peace, 2016).

Global Consequences of State Failure

Failing states and destabilized regions are not just a problem for the developing world. They are a very real concern for the United States and other developed countries as well. The Islamic State fed off of the Syrian Civil War and helped destabilize Iraq, Syria, Libya, and even Afghanistan and the Philippines. They have at also inspired terror attacks in Europe and the United States. They are a threat to both the developed and developing world. State instability allows them to recruit and train without government interference, which in turn allows them to plan attacks outside the region. An important source of income for the Islamic State has been agriculture from Iraq and Syria. While this revenue has received less media attention than oil extraction, it is still an important part of their economy (Jaafar & Woertz, 2016). It is also a key aspect of their political legitimacy because it allows them to feed their soldiers and those they control. Controlling some of the most fertile regions of the two countries has also helped the Islamic State starve off areas that have resisted them (Jaafar & Woertz, 2016). If Syria or Iraq are ever going to stabilize, those breadbaskets must be retaken and the food must reach the civilians in the cut off areas.

In the 20th century, state failure had few implications for international peace and security. Thanks to globalization, that is no longer the case. Failed states pose a threat to themselves, their neighbors, and the entire international community (Rotberg, 2002). Islamic State - inspired terror attacks in Belgium and France are a direct result of state collapse in Syria and Iraq. Preventing states from failing, rather than having to intervene militarily when they do, ought to be a top priority in the foreign policy of rich nations. Although the situations in Syria, Somalia, and South Sudan seem beyond repair, nation-building projects have had success in the past. Tajikistan, Lebanon, Cambodia, Kosovo and East Timor are all examples of relatively successful attempts to put failing states back on the right track (Rotberg, 2002). Developed countries must have the political will to ensure that people in developing countries are fed so that they remain pacified. It is often severe food insecurity that precedes ethnic or religious violence, as has been the case in South Sudan, therefore, adequate food is paramount to avoiding humanitarian crises that accompany ethnic and sectarian conflict (The Economist, 2016).

While it is true that many developed countries, especially the United States, are weary of providing so much financial aid and intervening militarily in war-torn, developing countries, it is imperative that the rich do not abandon the poor to a fate of internal destruction. Money must not be thrown blindly towards humanitarian crises and military intervention must be the last resort. Developed countries provided $1.4 billion for humanitarian aid in South Sudan in its first year of independence, but without specific conditions, that money went to kleptocrats rather than infrastructure projects or public services (The Economist, 2016).

Paying to help developing nations is expensive and will continue to be so. Afghanistan and Iraq are proof of that. But the war on terror, repeated military intervention, and humanitarian aid are expensive as well. In 2002, Robert Rotberg suggested that a new Marshall Plan was required for places like Afghanistan, the DRC, Sierra Leone, Somalia, and Sudan. If it is true that food and water security are the keys to keeping relative peace in new and developing countries and their collapse threatens the safety of the developed world, it seems logical that assisting those countries is wise.

In 1999, Susan L. Woodward argued that military leaders focus too much on force versus force combat rather than the issues of insurgency and terrorism in failed states. In 2017, military leaders have adjusted their strategies accordingly. Woodward believed that globalization made states less important, but their failure would still be felt around the world. Failed states cannot exercise their monopoly on violence and they cannot control their borders, thus threatening more than just the failed state (Woodward, 1999). Because state failure is so consequential, the United States military must continue to look into measures it can take to prevent it.

The Threat of the Future

Finally, the threats from food shortages in South Sudan, Somalia, Afghanistan, Iraq, and Syria are important to the United States and the international community at large, but there is one country that, while it is not a failing state right now, could easily become one if the wealthy nations of the world do not ensure its stability. That country is Pakistan. The Fund for Peace ranked Pakistan as the 14th most fragile state in the world in 2016, giving it a “High Alert” designation for state failure (The Fund for Peace, 2016). Its Demographic Pressure Indicator was an 8.9 - 10.2 Although it improved by one-tenth of a point last year, its decade trend is worse by seven-tenths of a point and its five-year trend is worse by four-tenths of a point, suggesting that the food situation is actually worsening overall (The Fund for Peace, 2016). If internal conflict and potential state failure at its most basic level begins with food and water insecurity, then Pakistan could become a real problem very soon.

Considering the risk of state failure, Pakistan poses the greatest threat to the rest of the world because of the existence of nuclear weapons within the country. Pakistan is not a member of the Nuclear Non-Proliferation Treaty, yet it has about 120 nuclear weapons. It also has a Shaheen 1A ballistic missile that can reach targets 550 miles away (Pakistan Defence, 2015). Should a food crisis arise in Pakistan that results in civil war and governmental collapse, those weapons could end up in the hands of a group that intends to use them maliciously as an act of terror. That prospect should be incentive enough for the developed countries to realize that they cannot and must not leave food insecure countries to devour themselves.

While it is difficult to argue that food insecurity immediately and directly causes civil conflict, there is no denying that people need food and water and will fight to survive. In South Sudan, ethnic and political armies fight one another. In Syria, rebels and government forces fight each other while also fighting the Islamic State. And in Somalia, warlords and their armies fight. The Syrian Civil War began six years ago after a water shortage forced thousands of migrants into urban centers. Developing countries tend to be most affected by climate change, poor governance, and food price increases. Therefore, they are the most prone to instability that may lead to outright violence. Without the wherewithal to handle civil conflict, these countries may become fragile or even failing states. Once that happens, they represent a threat not just in their region of influence, but the whole world. That is why the developed Western nations must pay attention and provide aid to the developing world in order to maintain stability. There will be more food crises in developing countries in the future, but if the North has the strength to continue aiding the South, perhaps it will be able to curb mass starvation and avoid the horrendous violence that consumes starving countries

# Plan

#### The member nations of the World Trade Organization ought to reduce intellectual property protections for CRISPR.

#### Plan Solves –

#### CRISPR will be able to solve for future pandemics; COVID proves

Levy 20 Steven Levy, 3/10/20, https://www.wired.com/story/could-crispr-be-the-next-virus-killer/

In this particular experiment, he had introduced the lab’s Crispr-based system for finding and destroying SARS-Cov 2 (what scientists [call the new coronavirus](https://www.wired.com/story/coronavirus-has-a-name-the-deadly-disease-is-covid-19/)) into a solution containing an inert synthesized fragment of that virus. Like [all Crispr systems](https://www.wired.com/story/dna-editing-crispr-cas9-cas12e-cas12b-cas12a/), this one was composed of two parts: an enzyme and a strand of so-called "guide RNA." The RNA directs the enzyme, in this case, Cas-13d, to latch onto specific spots in the coronavirus's genome where it then makes a series of cuts. You can think of it like a pair of scissors programmed to scan a cookbook and chop up only the page containing the recipe for SARS-Cov-2.

After Abbott analyzed the data, he called over Marie La Russa, a research scientist managing the project, to verify what he’d seen. The coronavirus-targeted Crispr had reduced the amount of virus in the solution by [in a person] 90 percent. If effectively delivered, this kill rate, they theorized, might be enough to stop the disease in a human.

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The gene-editing power of Crispr technology has been increasingly directed at fighting diseases, originally against genetic ones. But more recently, it’s been harnessed [to fight infectious diseases](https://www.wired.com/story/chinese-scientists-try-to-cure-one-mans-hiv-with-crispr/), including, now, the new coronavirus. For instance, multiple teams inside and outside of academia are working on [using Crispr for more effective tests](https://www.wired.com/story/a-new-startup-wants-to-use-crispr-to-diagnose-disease/). Mammoth Biosciences, a private company, claims to have developed [a test for Covid-19](https://mammoth.bio/wp-content/uploads/2020/02/A-protocol-for-rapid-detection-of-the-2019-novel-coronavirus-SARS-CoV-2-using-CRISPR-diagnostics-SARS-CoV-2-DETECTR.pdf) that cuts the result time from several hours to under 30 minutes. Sherlock Biosciences has produced a protocol that could possibly enable something that would work [like a pregnancy test](https://www.broadinstitute.org/news/enabling-coronavirus-detection-using-crispr-cas13-open-access-sherlock-research-protocols-and), giving a positive signal on a test strip.

Efforts using Crispr to actually prevent or fight coronavirus are also emerging from existing projects designed to fight influenza and other infectious viruses. In 2018, Darpa began a four-year program called [Prepare.](https://www.darpa.mil/news-events/2018-05-25) According to its call for proposals, the idea was to use genetic approaches to “generate new medical countermeasures for future use in humans.” Qi’s lab at Stanford was one of several grant recipients. In April 2019, they began working on a Crispr-based means of fighting influenza. Naturally, as the coronavirus [spread earlier this year](https://www.wired.com/story/wuhan-china-coronavirus-global-health-emergency/), the team took notice, and in late January they switched their focus to the virus that’s now changed the way we live.

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For all of that, the Stanford paper may one day be seen as a milestone. The ultimate promise of a Crispr-based system is that once you identify the genetic targets of a new virus, altering a previous treatment is a simpler process, and can be quickly implemented. “So maybe down the line in the future, we would have the system that is completely agnostic to which virus that you're [fighting],” says Abbott. “All you would have to do is change one simple part, and then, boom, you’re actually protected against this new novel virus.” (He concedes that the FDA would still have to sign off on any new use for the therapy.)

#### CRISPR solves for food insecurity –a Chinese lead in initiative can drive more efficient agriculture practices

Molteni 19 [(Megan, a science writer at STAT News. Previously, she was a staff writer at WIRED, covering biotechnology, public health, and genetic privacy.) “Crispr Can Help Solve Our Looming Food Crisis—Here's How” WIRED, 8/8/2019] TDI

In the US, six companies are currently developing Crispr-modified crops. But it’s not clear how many of them will actually help feed the world more sustainably. Corteva, DowDuPont’s agtech arm, will likely bring the first Crispr crop to market in the US—an even waxier waxy corn, which gets processed into food thickeners and adhesives. To see where Crispr might transform the food supply to one that can survive the ravages of climate change, you have to go to China.

According to a recent report in Science, China has been ramping up its Crispr crop work, with more than 20 labs dedicated to developing plants to feed the country’s swelling population. In 2013, the most recent year for which comparative figures exist, China outspent the US government on public funding of agricultural research more than twice over, pumping $10 billion into more than 1100 research institutions. And in 2017, the state-owned company ChemChina paid $43 billion for one of the world’s largest agribusinesses, Syngenta, which has a significant Crispr division. China still has yet to decide if it will follow the US’s lead with regards to regulation of Crispr crops, or if it will treat them the same as first-generation GMOs, as the European Union ruled last year.

In theory, Crispr and other genetic technologies could help reduce agriculture’s footprint in four big ways. One, it could keep already established croplands productive in the face of a changing climate, preventing the conversion of what remains of the planet’s wild areas to food production. Two, it could reduce farmers’ reliance on fertilizers, by helping companies develop designer microbes that produce nitrogen for crops instead. Three, it could make raising livestock both more efficient, more sustainable, and more humane. And lastly, but probably most realistically, it will help create crops with less spectacular traits that offer more incremental advances in efficiency—they sequester more carbon, pack in more nutrients, and produce more food per acre with fewer inputs.