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Essays

# Feeding the Future: Ending World Hunger Through Innovation and Technology

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World hunger is one of the most pressing issues of our time and should be a priority for the new U.S. administration. Yet its relentless grip on the lives and stomachs of many is deeply rooted in the flaws of the food distribution system. This essay urges for a reshaping of such system along with the implementation of innovative agricultural strategies and waste management tactics. The adoption of these strategies could go a long way toward eradicating global hunger and enhancing food security.

Dear Mr. President:

Worldwide 783 million people know what hunger feels like. A hunger that is painful, all-consuming, a hunger that kills. It is without a doubt one of the most pressing issues of our time, but perhaps the most tragic aspect of this issue is its evitability; it is not a matter of not having enough food to feed the world, it is a matter of the unequal distribution of such food that leads to food insecurity. Those 783 million people are suffering at the hands of the governments and institutions that swore to protect and provide for them. The inefficiencies in the food industry and its distribution system generate a substantial amount of waste, all of which could be used to feed the mouths that are going hungry if there was to be a change in the system. The roots of the issue start from the production of food itself, particularly given that traditional agriculture has been unable to keep up with the alarming rates of population growth, and its vulnerability to droughts, pests, and soil degradation which frequently cause setbacks.

The United States of America is and will always be a global leader, it dominates the world podium in agriculture and innovation, and thus it is certainly capable of being the driving force behind a revolution that is so much needed, one that proves that sustainable food production and equitable distribution is a possible reality and will be a reality if the Global Food Security and Innovation Initiative (GFSII) is implemented. A groundbreaking advance towards eradicating world hunger, GFSII strives to alleviate food insecurity while simultaneously enhancing food production, improving distribution, and implementing advanced agricultural technologies such as artificial farms.

Artificial farms may sound controversial only because they are such a breakthrough in the realm of science and technology. If the United States takes the leap of faith and invests in both large- and small-scale artificial farms, other countries will follow suit. Using their cutting-edge procedures like developing lab-grown proteins to manufacture meat, not only would there be more surplus of food, but time, energy, and space will be saved as well. The collateral damage of production would also be mitigated, avoiding waste, runoff, greenhouse gas emissions, and depletion of water sources, and all the costs that come with them. This is specifically crucial when considering the environmental degradation caused by traditional farming methods, including the effects of pesticides and fertilizers, which can harm ecosystems and irrevocably damage soil health. Artificial farming, on the other hand, can provide a more efficient and enduring way to meet the global demands for food. Now, given that the transition to rely on artificial farms will surely be slow, another crucial component of GFSII involves making changes to the existing agricultural system to implement more climate-resilient and sustainable farming practices. For starters, the usage of vertical farming in urban areas is strongly encouraged, serving to reduce land use and increase efficiency. This technique would be particularly impactful and most likely successful in densely populated areas like urban hubs and cities where land availability is often limited, and traditional farming is not feasible. To further propel these sustainability efforts, advocating for genetically modified crops is crucial, not so much as a matter of making crops appealing to the consumer but rather as a matter of adopting drought-resistant, pest-resistant and higher yield variations. This would significantly reduce the strain on natural resources while enhancing food production at the same time. Finally, promoting regenerative agriculture and crop rotations to restore soil health and reinforce carbon sequestration would allow for the maximization of production without surpassing the environment's natural capacity, minimizing damage, and ensuring long-term soil fertility.

Addressing the matter of food waste, which is undeniably directly correlated with the hunger phenomenon, GFSII urges for the United States to reinvent the food distribution and waste reduction frameworks that are currently in place. Of course, the nation cannot tackle such a task by itself, which is why the development of international

partnerships is essential to reduce food waste and improve global supply chains. This could be achieved by either bilateral or multilateral agreements in which the United States could collaborate with key trading partners and international organizations like the Food and Agriculture Organization and the World Trade Organization. Global powers could refine standardized food safety, storage, and transportation regulations that reduce spoilage in transit and other inefficiencies during distribution. It is worth noting that the United States could ise its technological advancements as leverage to assist developing countries in modernizing and improving their agricultural infrastructure, helping them become more self-sufficient in food production. Given this is a global matter, crisis zones cannot be overlooked; the United States could also make trading deals in which they aid in the establishment of better storage systems and efficient transportation networks in exchange for lower tariffs on products. By opening up these avenues for collaborative unions, countries can distribute the weight of the food crisis. It is vital to remember that meaningful change can also take place on smaller scales, often serving as the foundation for larger transformations and ensuring lasting progress. Keeping this in mind, taking a localized approach and utilizing trade policies to incentivize food producers and exporters to adopt sustainable packaging. Subsidy arrangements, tax benefits, or preferential trade agreements for corporations or businesses that can prove their sustainability practices and showcase their prioritization of biodegradable or recyclable packaging are all ways of fostering waste-reduction methods. By shifting towards circular economy practices in the industrial food sector, waste could be minimized, and resources could be utilized to their fullest potential. This could be reinforced by collaboration with local stakeholders, such as farmers, manufacturers, and retailers, to ensure that these policies are both practical and effective, strengthening supply chains starting at the regional level and helping them become better aligned with global sustainability goals.

GFSII may not be what the United States Government wants, but it is what it needs; nothing worth anything was ever easy. The benefits of its implementation are incalculable; it would completely transform the world as it is known. First, the technologies GFSII is proposing such as artificial farms and vertical farming would both optimize land use and its efficiency, allowing not only for the production of more food in less space, but also the production of food in previously deemed 'unsuitable' areas for traditional agriculture that may have resulted in food deserts. By adopting these methodologies, urban and rural areas alike could see a reduction in food scarcity, helping to alleviate the hunger that grips the lives, and stomachs, of millions. Additionally, the manufacturing of provisions in such controlled environments enables year-round production without experiencing the impacts of seasonal changes, natural disasters, and geographic limitations. The regenerative agriculture practices to restore soil health would also protect and ensure fertility, increase organic matter, promote biodiversity, and contribute to long-term agricultural productivity. Regarding GFSII proposed storage and transportation modifications, countries secure stable food supply networks, reducing vulnerabilities and losses that may be unaccounted for regardless of circumstantial conditions. Finally, if the United States would follow GFSII's joint efforts, the global network of connections would be integral, and shared goals would be solidified.

All things considered, the United States must recognize its protagonist role in the global stage and take immediate steps to lead the food security movement through innovation and eliminate world hunger. Ultimately, the United States is one of the few countries that has the power and tools to be at the forefront of this change to make a future where food security is no longer a distant aspiration but a reality. As one of the world's largest food producers and economic powers, this is not only a matter of opportunity but of responsibility.

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