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Why Food Security Matters

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Chairman Young, Ranking Member Merkley, members of the Senate Foreign Relations Subcommittee on Multilateral International Development, Multilateral Institutions, And International Economic, Energy, and Environmental Policy, thank you for convening this hearing today on "Why Food Security Matters**.**" Today, I will share key findings from a report produced by World Food Program USA, *Winning the Peace: Hunger and Instability*. Released in December 2017, this report—drawing on 53 peer-reviewed journal articles, the highest standard for sharing scientific work—provides among the most comprehensive reviews of the link between food insecurity and global instability ever produced. While we have long understood the relationship between hunger and instability to exist intuitively, research is now catching up. The evidence base presented in *Winning the Peace* clearly shows that food insecurity creates desperation that manifests in many ways—sometimes violent—but almost always destabilizing. What is universally true about modern day conflicts is that they do not respect borders. Addressing food insecurity in all its forms and places, is an investment in global stability and the security of the United States.

A fragile world

The timing of this hearing—and the *Winning the Peace* report—is critical. As we enter 2018, more than 65 million people have been displaced because of violence, conflict and persecution, more than any other time since World War II. Meanwhile, the number of hungry people is again on the rise, increasing for the first time in over a decade to 815 million people. Over 60 percent of undernourished people in the world—some 489 million—live in countries affected by conflict. Almost 122 million, or 75 percent, of stunted children under age five live in these same places. The world has seen a rise in state fragility in recent years. Ten out of the World Food Programme's (WFP) 13 largest and most complex emergencies is driven by conflict, and over 80

percent of all humanitarian spending today is directed toward man-made conflict. By 2030, between half and two-thirds of the world's poor are expected to live in states classified as fragile. Fragile states are defined by "the absence or breakdown of a social contract between people and their government. Fragile states suffer from deficits of institutional capacity and political legitimacy that increase the risk of instability and violent conflict and sap the state of its resilience to disruptive shocks." While a decade ago, the clear majority of fragile states were low-income countries, today almost half are middle-income countries. Roughly 85 percent of countries that were severely food insecure in 2016 were also considered "fragile" or "extremely fragile."

Fragility today is driven in no small part by displacement from violence, conflict and persecution, affecting entire regions of the world. Most countries hosting refugees and internally displaced people today are low- and middle-income countries that are the least equipped to cope with such pressures. In fact, developing regions host 85 percent of global refugees. Uganda, one of the smallest countries in sub-Saharan Africa, is hosting more than 1 million refugees from South Sudan and other neighboring countries. Meanwhile, Lebanon, a middle-income country, is hosting more than 1 million Syrian refugees, representing 20 percent of the country's population of 4.5 million. The average length of refugee displacement is 17 years. These countries are providing a global public good, yet face considerable challenges in meeting the immediate needs of their own citizens.

While the state of hunger and fragility continues to evolve, so too has the nature of conflict. After declining in the immediate aftermath of the Cold War proxy conflicts, the number of conflicts in the world is again on the rise. According to a new World Bank and United Nations publication, the number of major violent conflicts has tripled since 2010. The Council on Foreign Relations is currently monitoring 32 global conflicts affecting U.S. strategic interests. The nation-state—which has reigned sovereign in the international system since the 17th century—has further surrendered its exclusive position as the main belligerent in war. Today, domestic conflicts and civil wars are far more common than interstate violence. Furthermore, non-state conflicts—conflicts in which the state is not involved as a combatant—have increased by 125 percent since 2010, and now represent the largest category of conflict. Non-state actors, sometimes motivated by extremist ideologies and facilitated by improved recruiting capability, have occupied an increasingly larger space in the international system. A main "weapon" of modern conflict is information, allowing non-state actors to undermine traditional nation states in more consequential ways, attacking their legitimacy rather than—or in addition to—their military power. Non-traditional security threats like food insecurity can create the conditions for instability. Such threats cannot be addressed through military responses alone.

Hunger and instability: the anecdotal base

The instruments of U.S. foreign policy are sometimes referred to as the "3D's"—defense, diplomacy and development. Within the "development" sphere, the U.S. has increasingly adopted a comprehensive approach to global food security. Throughout the history of U.S. food assistance and agricultural development programs, the United States has acted on a triad of moral, economic and security grounds. Moral justification implores the United States to lead with its values, relying on the power of its example, rather than the example of its power. Ensuring that no child goes hungry is consistent with our values and represents the best of who we are as Americans. We also invest in global food security for economic benefit. Over 95 percent of consumers live outside of the United States. In fact, 11 of our 15 top trading partners were former recipients of food assistance. Food assistance and global agricultural development programs, at their core, are investments in the American economy, building a world of consumers for American products and stable environments for American businesses. Investing in global food security for stability purposes—the third rationale—has traditionally received less attention. This is the "gap" that *Winning the Peace* set out to fill.

Political and military leaders have long recognized the importance of "smart power" in the form of foreign assistance, especially food assistance and agricultural development. "Show me a nation that cannot feed itself," remarked Senator Pat Roberts, "and I'll show you a nation in chaos." Perhaps the most widely cited development-security reference comes from the current U.S. Secretary of Defense, General James Mattis. In Congressional testimony in 2013, when he was serving as Commander of U.S. Central Command, the General remarked, "If you don't fund the State Department fully, then I need to buy more ammunition." Senator Lindsey Graham, meanwhile, has commented in a State, Foreign Operations and Related Agencies Appropriations Subcommittee markup**:** "And we are going to deal with these kids now—help them get back on their feet— or fight them later." Consequently, development—and food security, specifically—has become an increasingly strong consideration in stabilization and countering violent extremism efforts from the United States.

Food insecurity is both a consequence and a driver of global instability. The former—food insecurity as a byproduct of war—is well understood. People living in conflict-affected countries are more than 2.5 times more likely to be undernourished than people living in other settings. "War," after all, as famously stated by Paul Collier, "is development in reverse." Conflict displaces people, topples markets and destroys critical infrastructure, each undermining agricultural production and access to food. WFP, in an analysis of food prices in conflict-affected countries, *Counting the Beans: The True Cost of a Plate of Food,* estimates that the cost of a simple meal valued at $1.20 in New York would cost $321.00 in South Sudan. WFP estimates that the increased costs of its operations as a result of instability, lack of access and poorly

functioning food systems amounted to $3.45 billion in 2015.

That war, instability and violence adversely affect food security is widely documented. However, the other direction of causation is decidedly more complex. Given that food insecurity is intimately related to other forms and causes of extreme poverty and deprivation, the relationship between hunger and instability is most often cited anecdotally. The failure to respond adequately to drought conditions, for example, is widely accepted as a contributing factor to political regime change in Ethiopia both in the 1970s and the 1980s. More recently, food price riots contributed to the toppling of governments in Haiti and Madagascar in 2007 and 2008 and violent protest in at least 40 other countries worldwide. Production shocks and price spikes in 2011 were similarly linked to the social unrest of the Arab Spring, and the ongoing Syria crisis has clear links to prolonged, historic drought conditions affecting food supplies. Meanwhile, the War in Darfur has been branded the "first climate change conflict" by many observers.

Results

Yet with rigorous analysis, we can move beyond the anecdotal with respect to the relationship between food insecurity and instability. In the production of *Winning the Peace*, the Web of Science academic database was accessed—containing 90 million peer-reviewed journal articles—to exhaustively catalogue the relevant literature. Our word search combinations yielded 3,000 articles with varying degrees of proximity to the desired topic. This sample was reduced to 564 priority articles describing the relationship in both directions (i.e. instability causing food insecurity and food insecurity leading to instability), and 53 high-priority articles that explicitly test the relationship between food insecurity and instability, in that direction of causation. The results of the review demonstrate that 77 percent (41 of 53) of high-priority studies determine food insecurity and instability to be positively correlated, 17 percent (9 of 53) partially correlated, and 6 percent (3 of 53) without correlation. Importantly, almost 75 percent of these studies were published in the last five years, in the period between 2012 and 2016. While these 53 studies are invaluable on their own, it is when they are combined into a comprehensive, collective body of work that results become most useful in understanding this complex phenomenon. Across these studies, *Winning the Peace* surfaced 11 unique drivers of food insecurity examined by researchers—from land competition and food price spikes to rainfall variability—linked to nine separate types of instability—ranging from peaceful protest to violent interstate conflict.

These results demonstrate the complexity of the relationship between food insecurity and instability. Modern conflicts are almost never driven by a single cause. Sometimes the responses to food insecurity can be a more powerful driver of food-related instability than shock-events themselves. For example, in an increasingly globalized food system, actions taken by governments to alleviate their own domestic food insecurity—like reduced import tariffs and

export restrictions and other market distortions—can inadvertently undermine the stability of other nations. The social, political and economic drivers of food-related instability also vary widely between contexts. Sub-Saharan Africa, for example, is home to a complex colonial past, ongoing ethnic strife and persistent poverty—each of which can serve as a primary driver of instability that is multiplied by food insecurity (i.e. food insecurity as a "threat multiplier"). These results also serve to warn against the dramatic oversimplification that "all hungry people are violent and all violent people are hungry." Food-related instability is not limited to instances of violence, let alone violent extremism. Food price protests, for example, among the most common manifestations of food-related instability, can be non-violent and often occur among more affluent populations suffering from transitory food insecurity, but not chronic hunger. The world's chronically hungry, meanwhile, are disproportionately located in rural areas characterized by vast geographies and limited communication technology—these populations very often suffer in silence. In short, food-related instability occurs in both urban and rural settings; manifests in violent and non-violent ways; and occurs across various geographies and levels of economic development.

While local context must always be considered, instances of food-related instability can be broadly categorized according to three main drivers of food insecurity and three interrelated individual motivations that prompt people to engage in social unrest or violence. Drivers include (1) agriculture resource competition; (2) market failure; and (3) extreme weather. Motivators, meanwhile, include (1) grievance; (2) economic or "greed;" and (3) governance. A combination of drivers and motivators create the conditions for every instance of food-related instability to occur.

Drivers of food-related instability

a. Agricultural Resource Competition

The first driver is agricultural resource competition. In the last half century, some 40 percent of civil wars have been linked to natural resource competition. Across much of the developing world, and especially sub-Saharan Africa, agriculture constitutes a large percentage of total Gross Domestic Product (GDP) and employs up to 80 percent of the rural population. When permanent resources like land and water (i.e. lakes, rivers and aquifers) are inadequate to sustain agricultural livelihoods, the risk of instability rises markedly. This commonly manifests in conflicts between pastoral and sedentary agricultural communities, but also through land grabs, inadequate land tenure laws and state-run land redistribution measures, among others. Resource competition is exacerbated by increased human migration, especially between ethnically diverse communities.

Land competition has long manifested in conflicts between pastoral and sedentary communities. Nomadic herders traditionally operate in territory unfit for sedentary agricultural production. Pastoralists rely on their mobility as a coping mechanism against short-term weather and market variations. Yet as long-term climatic conditions deteriorate and lands become further degraded, pastoralists—especially in the African Sahel—are encroaching on agricultural lands where rains are more reliable and temperatures more suitable for livestock production. Widespread drought erodes nomadic adaptation strategies like clan-based support since a large swath of the population is affected simultaneously. The relationship between resource competition and migration is mutually reinforcing. Migration can place new stresses on rural economies and resources, and resource competition can, in turn, lead to increased migration. Recent research with migrants from East and West Africa, Asia and the Middle East by WFP's Vulnerability Analysis and Mapping Unit shows that for every one percent increase in food insecurity, there is a two percent rise in migration.

In a salient example of agricultural resource competition, in the decades leading up to the 2003 outbreak of the war in Darfur, the Sahel region of northern Sudan had witnessed the Sahara Desert advance southward by almost a mile each year and a decrease in annual median rainfall of 15 to 30 percent. These long-term climatic trends had significant consequences for Sudan's two predominant—and sometimes competing—agricultural systems: Smallholder farmers relying on rain-fed production and nomadic pastoralists. Agriculturalists in Sudan are predominantly ethno-African, while pastoralists are disproportionately of Arab ethnicity. These factors led then U.N. Secretary General Ban Ki-moon to comment in 2007, "Almost invariably, we discuss Darfur in a convenient military and political shorthand—an ethnic conflict pitting Arab militias against black rebels and farmers. Look to its roots, though, and you discover a more complex dynamic. Amid the diverse social and political causes, the Darfur conflict began as an ecological crisis." Importantly, the risk of agricultural resource-based instability is magnified with each consecutive growing season lost.

Resource competition is not always driven by natural phenomenon, however. Proposed large-scale land acquisitions by Daewoo, for example, led to the toppling of the government in Madagascar in 2009, currently the first example of an agricultural "land grab" contributing directly to political instability. Similarly, re-distributional land reform has been historically responsible for considerable unrest, with at least one study in *Winning the Peace* showing that the risk of coup rises considerably when policy changes like land reform are introduced. Notable examples include Soviet agricultural collectivization and land reform in China's "Great Leap Forward," but land reform-related unrest has also been documented in North Korea, Uganda, South Africa, Zimbabwe, Cambodia and Guatemala, among others. Finally, while we intuitively think of social and political unrest resulting from agricultural resource scarcity, the likelihood and duration of conflict can be partially dependent on the *abundance* of resources. Supplying a successful rebellion is a resource-intensive process, and even if rebels have the motive to fight,

they also require the means; after all, "an army marches on its stomach." Several authors in this review identified resource abundance as a condition for certain types of conflict onset and duration.

b. Market Failure

The second category of food-related instability is market failure. The global food price spikes of 2007-2008 and 2011 have increased the profile of this form of food-related instability, especially food price riots. Between 2000 and 2008, global wheat prices tripled and corn prices doubled, accelerating rapidly in late 2007 and leading to social unrest in at least 40 developing and middle-income countries in what has been termed the "silent tsunami." Food price spikes are widely recognized as leading to regime change in Haiti and Madagascar during this period. A second wave of price spikes owing to agricultural commodity production shocks on the Eurasian continent in 2011 has also been linked to the rise of the Arab Spring in the Middle East. The relationship was thrust into the media with the dramatic protest of Mohammed Bouazizi, a vegetable vendor in Tunisia whose immolation epitomized the desperation felt by many in the region and served as a catalyst for wider unrest. Food riots are an intuitive result of commodity price fluctuations given the relative economic inelasticity of food—there is no substitute for food, even when prices are high. Yet food price spikes and social unrest are mediated by a variety of factors, including import dependence, cultural significance of the affected food commodities and political regime type, among others.

Food price riots, for example, are more likely to occur in urban areas of countries with high reliance on food imports. Riots in response to price shocks are enabled by the high density of people living in urban centers with adequate channels of communication that allow for mass organization—this is often referred to as the "contagion effect." The Middle East and North Africa (MENA) imports over half of the food it consumes, the highest import dependency on the planet. That production shortages in one part of the world can affect social and political instability in another is what Sternberg refers to as the "globalization of drought." In the direct aftermath of the 2007-2008 food price crisis, 31 percent of 105 surveyed countries put in place export restrictions and half reduced food import taxes. Foods that tend to have cultural significance, especially those consumed by the rich and the poor alike, are also more likely to incite widespread unrest. This is why staple products of national significance—e.g. the "pasta riots" in Italy or "tortilla riots" in Mexico—often lend their names to social unrest. In the Middle East, bread has considerable cultural significance across social strata, meaning the rise in global wheat prices (and high import reliance in MENA) was especially predictive of conflict in this setting. Political regime type (i.e. democracy versus autocracy) also plays an important role in mediating the relationship between food price and social unrest. Short-term unrest is more likely to occur in democracies with permissive political opportunity structures that allow for popular uprising and government protest. This demonstrates the point that not all instability is bad,

especially if it leads to meaningful social change. While the likelihood of demonstrations and riots is reduced in oppressive regimes, more organized persistent forms of conflict are more likely to occur in these settings.

Ultimately, the link between food price shocks and instability is dependent upon the country, the level of import dependence, the perceived reason for the price increase, the agricultural commodity, the model of government and the level of pre-existing social grievance, among other considerations. Even so, while the conditions that determine the relationship between food prices and stability are complex, the dynamic is not devoid of causation. When the globalization of crises meets with burgeoning urbanization and the contagion effect facilitated by widespread access to mass communication, the potential for conflict rises considerably.

c. Extreme weather

The third category of food-related instability is extreme weather. This driver underpins agriculture resource competition and market failure, but represents a sizeable body of literature in and of itself. Agriculture is an obvious interlocutor between climate and conflict given that the sector is strongly affected by climatological conditions like rainfall variations and temperature fluctuations. It is estimated that 80 percent of agricultural production in developing countries does not employ any form of irrigation. Furthermore, the impacts of climate change will be most severe in low-latitude countries in tropical, equatorial environments, disproportionately affecting the Global South.

Extreme weather events as a driver of food-related instability is apparent in a variety of modern-day conflicts. In the lead-up to the civil war in Syria, for example, the country experienced “the worst long-term drought and most severe set of crop failures since agricultural civilizations began in the Fertile Crescent many millennia ago.” In the three-year period from 2006 to 2009, more than 1 million farmers were affected by crop loss. This long-term drought—combined with government policies on well-water pumping—placed unsustainable pressure on groundwater aquifers. As a consequence, the southwestern city of Dara’a, situated in one of the traditionally fertile areas of Syria, saw a large influx of migrants and was one of the first sites of social unrest in the country in 2011. Meanwhile, the rise of Boko Haram in northern Nigeria has been linked by several authors to prolonged drought conditions in the Lake Chad Basin area of West Africa. In recent decades, the water surface of Lake Chad has shrunk by over 90 percent compared with its size in the 1960s, contributing to a loss of livelihoods and threatening food security in the region.

Since 2010, the United States has recognized climate change as a "threat-multiplier" in its Quadrennial Defense Review. Meanwhile, the United Nations estimates that approximately 1.3 billion people in the world also live on ecologically fragile land. While the defining challenge

facing the humanitarian system today is the proliferation of violent conflict, each year some 22.5 million people are displaced by climate-related extreme events, in part because of inadequate responses, a lack of safety net protection systems or insufficient investments in resilience-building and disaster risk reduction. It is estimated that climate change could force as many as 122 million people into poverty by 2030.

Motivators of food-related instability

While it is one thing to correlate two variables, it is entirely another to identify the individual rationale for observed human behavior. Truly understanding the hunger-instability nexus means first answering the fundamental question: Why do food-insecure people resort to violence or other forms of social unrest? In the food-related instability literature, several causal mechanisms are identified, often summarized as "grievance, economic, or governance" motivations. While individual motivations for involvement in food-related social unrest and violence vary between contexts and people, they generally fall into these interrelated categories.

First, the "grievance" motivation refers to actions motivated by a perceived injustice. The grievance motivation is especially potent when food insecurity provides an impetus for the airing of longstanding societal divisions, allowing a population to cleave along pre-established lines. When food insecurity "breaks the camel's back," exacerbating longstanding tensions, the grievance motivation is at play. A food-related instability event—like price riots or pastoral encroachment on sedentary agriculturalists—provides an opportunity for groups to settle pre-existing conflicts or disagreements. Research by Mercy Corps with youth in Afghanistan, Colombia and Somalia found that experiences of injustice, like discrimination and corruption, were among the strongest drivers of conflict. It is also true that one of the strongest indicators of the likelihood of violent conflict is a history of it. Over 40 percent of countries that have experienced civil war will see it again within a decade. This is sometimes referred to as the "violence trap."

Second, the economic motivation occurs when there is a clear economic advantage to resorting to violence. This motivation is often reduced to a simplified equation: Does engaging in violent conflict or revolt yield a higher economic and social return than the status quo (i.e. is there a compelling opportunity cost of inaction)? This often plays out with rebel groups paying wages—or offering food—as a recruitment incentive, effectively taking advantage of the desperation felt by those unable to feed themselves or their families. Reflecting this commonly held view, former U.S. Senator Richard Lugar remarked, "Hungry people are desperate people and desperation can sow the seeds of radicalism." In other words, that there is an important distinction between involvement with an armed group and being an "extremist." In Somalia in 2011, while denying access to international humanitarian agencies, al-Shabaab was reported to offer cash-payments or even salaries in exchange for enlistment to its movement. In fact, former militants describe al-

Shabaab enlistment as a commercial venture, not an ideological one. Meanwhile, in Colombia, the FARC provided protection to local farmers and guaranteed a minimum price for a variety of agricultural products. This same phenomenon has played out in Syria, northeast Nigeria, and Sudan, among other settings.

Third, the governance motivation occurs in the context of unachieved expectations or a failure of the state to prevent food insecurity. Additionally, when the state's ability to enforce rule-of-law is diminished or non-existent, it is easier for economic or grievance-motivated individuals to make the decision to engage in conflict without fear of punitive repercussion. Many parts of the developing world, in particular, are home to huge tracks of ungoverned, lawless spaces existing outside of the policing arm of the state. These places are simultaneously unreached by social services and lack investments in critical infrastructure. In agricultural-based economies, the food production shocks that can initiate rebellion simultaneously reduce the state's ability to respond appropriately through a loss in the agricultural tax base. The governance motivation is further reinforced by interviews conducted by the United Nations Development Programme with 495 individuals that voluntarily joined extremist groups in Africa. The results of their analysis demonstrate that while religious and economic motivators are strong drivers of recruitment, a lack of trust in government (e.g. police, politicians or the military) is the single strongest driver, especially when a family or friend is killed or arrested by the government.

Severing the link

Since the drivers of food insecurity and instability are many—ranging from calorie availability to more structural issues around land tenure and livelihood opportunities—disrupting the link between food insecurity and instability requires a diverse toolbox of integrated actions. In other words, we must meet complexity with complexity. In practice, this means investing more heavily in development and humanitarian activities (i.e. meeting immediate lifesaving needs); implementing comprehensive food security programs that address the many faces of hunger; and pursuing improved communication between defense, diplomacy and development efforts so as to break the cycle and vicious feedback loop between hunger and instability.

First, we must meet the immediate lifesaving needs of those suffering from hunger as the result of conflict and natural disasters. Food assistance and agricultural development programs can be especially effective tools in *preventing* extremism from taking root. We must respond to humanitarian crises before they become something else entirely. At present, the global community is simply not meeting the immediate lifesaving and stability-producing needs of vulnerable people around the world. The United Nations Office for the Coordination of Humanitarian Affairs (OCHA) consolidated appeal—the most comprehensive of assessment of annual humanitarian funding needs—increased by over 62 percent between 2011 and 2018, from $8.5 billion to $22.5 billion, with the 2018 appeal becoming the largest in history. Needs are

growing faster than contributions. On average over the past decade, OCHA appeals have been funded at only 64 percent, leaving many vulnerable populations without assistance. Specific to emergency food assistance, WFP's 2017 operational requirements were funded at only 76 percent (approximately $6.8 of $9 billion). In analysis ranging back to 2010, WFP has never had the entirety of its operational needs met by donors.

Second, we must implement comprehensive global food security programming. There are several food-specific strategies that can break the food insecurity-instability relationship. The response has to be comprehensive, commensurate with the complexities of food-related instability and addressing emergency food assistance, agricultural development, child nutrition and social safety net systems. U.S. assistance programs should focus increasingly on the special needs of conflict-affected fragile states. U.S. humanitarian assistance has traditionally taken a lead role in U.S. response to the needs of vulnerable people in conflict situations. U.S. development aid, however, has not always been sufficiently available to fragile states seeking long-term solutions to their underlying food security and development challenges. Only when immediate humanitarian assistance is combined with appropriate medium- to long-term development programs can we build resilience and reduce the risk of future state fragility and conflict. The U.S. has made significant strides in this regard with the passage of the Global Food Security Act (GFSA) and associated strategy. The GFSA is up for reauthorization in 2018, and ensuring that this important legislation continues to guide U.S. food security policy should remain a top priority for Congress.

Emergency food assistance provides immediate relief from the impacts of manmade and natural crises, serving as the last line of lifesaving assistance to those in need and decreasing the desperation felt by people suffering from extreme hunger. When administered effectively, food assistance can reduce food price volatility and uncertainty, building trust in food systems; can provide livelihood opportunities that increase the "cost" of engaging in violent conflict; and can be effective tools in the battle for hearts and minds (e.g. U.S. food aid is branded "From the American People"). Food assistance has also been successfully deployed as a means to entice combatants to lay down their arms and reintegrate into society.

Food assistance alone cannot prevent conflict or the re-emergence of conflict once peace has been achieved. Almost half of the world's hungry are subsistence farmers. GDP growth in the agricultural sector is more than twice as effective at reducing extreme hunger and poverty than growth in other sectors in developing countries. Investments in subsistence farmers—especially women—can have a deep impact in reducing hunger and extreme poverty and improving self-sufficiency, with positive spillover effects into the wider economy. Agricultural development, for its outsized effect on economic growth, can be especially effective at deterring recruitment for violent uprisings and delivering peace dividends.

Early childhood nutrition can have lifelong effects on health and prosperity. Lacking proper nutrition at an early age, physical growth and intellectual development can be permanently damaged, leading to long-term consequences on individual achievement as well as broader economic growth and stability. More than 50 percent of those displaced from their countries by conflict, violence and persecution are under the age of 18. Children who do not receive adequate nutrition face physical, emotional and economic "stunting" that plagues them throughout their lives and makes them more prone to violence and aggression.

School meals are a particularly effective way of ensuring children receive proper nutrition and social protections. One of the strongest incentives for sending a child to school is the promise of a school meal. These programs have been demonstrated to increase school enrollment and attendance (especially for girls), and improve nutrition, health and cognitive development of children. The U.S. Department of Agriculture is WFP's largest multi-year donor to school meals programs, providing on average $80 million per year through the McGovern-Dole International Food for Education and Child Nutrition Program. Through this support, WFP reached 2,260,791 children in FY2016. Cost benefit analysis conducted in over 15 countries where WFP is providing school meals demonstrates that every dollar invested in these programs yields a return of $3 to $10 dollars from improved education and health outcomes. When food for school meals programs is purchased from local farmers (i.e. home-grown school feeding), this has the added benefit of supporting local agriculture and establishing supply chains that can serve as an exit strategy for donor assistance.

School meals are just one form of safety net. Safety net systems—the predictable transfer of basic commodities, resources or services to poor or vulnerable populations—protect against societal shocks and episodic bouts of food insecurity, allowing people to preserve productive assets and preventing vulnerable populations from further descending into extreme poverty. "Food-for-work" asset-building initiatives have been promoted as effective deterrents of terrorist recruitment, providing viable livelihood opportunities for vulnerable populations. Food and cash transfers have also proved successful in deterring riots, as evidenced in the 2007-2008 food price crisis where most affected countries that had cash- or food-based social safety nets in place avoided widespread food riots.

Third, while we should pursue improved communication between, defense, diplomacy and development actors, we must also recognize that they have distinct roles to play. The "firewall" between the military and humanitarians, in particular, exists to ensure humanitarian worker's neutrality and safety and ability to respond to objective need—they must not be seen as an extension of U.S. political or military force. Acknowledging the security dividends of humanitarian assistance does not simultaneously imply that we abandon our core principles for providing international assistance based on objective need, neutrality and impartiality. In the U.S. and beyond, the rationale for supporting food assistance programs has been predominantly

based on moral and economic considerations. Acknowledging the security dimension of food assistance does not elevate this rationale above others, but is simply a recognition of food insecurity's contribution to global instability and the security of all nations.

The "3D's" of U.S. foreign policy must, at the very least, learn to speak the same language. Defense, diplomacy and development are too often perceived as iterative steps—one to be followed after another. When diplomacy fails, we deploy kinetic force, at which point development actors are tasked with rebuilding. While we have often said that "today's humanitarian crises do not have purely humanitarian solutions," it can also be said that today's military engagements do not have purely military or kinetic solutions. As noted in a 2012 USAID report, Frontiers in Development, "the security challenges posed by fragile and failing states and the deprivation that accompanies them makes it all but inevitable that soldiers and humanitarians, diplomats and development experts will find themselves operating in increasing proximity to one another, often addressing the same issues with different tools and for complementary purposes." There is evidence that this is beginning to occur. USAID has humanitarian and development advisors at each of the U.S.'s six Geographic Combatant Command centers. Furthermore, an institutional structure is being established with cooperation between U.S. Department of State's Bureau of Conflict and Stabilization Operations, USAID's Office of Civilian-military Cooperation, and the Joint Chiefs of Staff's Civil Affairs Units. These steps are important and should be further shepherded. It is imperative that we see food security as fundamental to peace and security. One of the best investments we can make in peace and security is to help people who cannot feed themselves or their families.

Thank you Chairman Young and Ranking Member Merkley for the opportunity to testify on this important topic. I look forward to answering your questions.