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## RECONSTRUCTION 2018

*"Foreign aid is neither a failure nor a panacea. It is, instead, an important tool of American policy that can serve the interests of the United States and the world if wisely administered."*

— Lee H. Hamilton

**ABSTRACT:** The Class of 2018 Reconstruction Industry Seminar undertook a study of how governmental agencies, non-profit organizations, and for-profit firms support humanitarian assistance, reconstruction, and long-term development efforts in both the domestic and international arenas. The Seminar specifically analyzed the industry in the domestic context by assessing the U.S. response to Hurricane Maria in Puerto Rico. Internationally, the Seminar assessed the longer term efforts to increase resiliency and establish sustainable development models in Haiti in the years preceding and following the 2010 earthquake and Hurricane Matthew. This paper addresses the issues associated with both short-term and long-term reconstruction efforts and provides specific policy recommendations for the U.S. Government and other stakeholders, both foreign and domestic. Timely, efficient and forward-leaning reconstruction efforts remain a vital element in ensuring U.S. national security in an era of increased global fragility.

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## **INDUSTRY STUDY OUTREACH AND FIELD STUDIES**

### **On Campus Presenters:**

Team Afghan Power, Manassas, VA  
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Office of Foreign Disaster Assistance, Joint Humanitarian Operations Course (JHOC), Washington, DC  
UN Foundation, Washington, DC  
Research Triangle Park International (RTI), Washington, DC  
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### **Field Studies --Domestic**

United States Agency for International Development (USAID), Washington, DC  
Office of Foreign Disaster Assistance (OFDA), USAID, Washington, DC  
Millennium Challenge Corporation (MCC), Washington, DC  
Office of U.S. Foreign Assistance Resources, Department of State, Washington, DC  
Bureau of Conflict and Stabilization Operations (CSO), Department of State, Washington, DC  
World Bank Group (IBRD), Washington, DC  
Office of Transition Initiatives (OTI), USAID, Washington, DC  
Louis Berger, Washington, DC  
Management Systems International/Tetra Tech (MSI), Arlington, VA  
Chemonics, Washington, DC  
Development Alternatives Incorporated (DAI), Bethesda, MD  
Office of Stabilization and Humanitarian Affairs, U.S. Department of Defense, Arlington, VA  
U.S. Mission to the United Nations, New York, NY  
United Nations (UN) Department of Peacekeeping Operations, New York, NY  
New York City Office of Emergency Management, New York, NY  
Mercy Corps, Washington, DC  
U.S. Army War College, Peace and Stability Operations Training and Education Workshop (PSOTEW), Carlisle, PA

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U.S. Coast Guard, San Juan  
U.S. Corps of Engineers, San Juan  
Louis Berger, San Juan  
U.S. Coast Guard, Ponce  
U.S. Customs and Border Patrol, Ponce  
Louis Berger Power Field Office, Ponce  
Mercy Corps, Cataño  
Representatives from Insurance Industry, San Juan  
Representatives from Department of Tourism, San Juan

**Field Studies -- Haiti**

USAID Mission, Port au Prince

U.S. Embassy, Port au Prince

American Red Cross, Port au Prince

International Committee for the Red Cross (ICRC), Port au Prince

International Organization for Migration (IOM), Port au Prince

UN World Food Program, Port au Prince

Pan American Development Foundation, Port au Prince

Haitian Coast Guard, Les Cayes

Earth Spark, Les Anglais

Catholic Relief Services, Coteaux

UNICEF, Les Cayes

Papillion, Port au Prince

## INTRODUCTION

Despite our efforts to sustain global peace and expand prosperity, the world has been, and remains, an increasingly unstable place. In recent years the challenges of political instability, economic inequality, and environmental degradation have resulted in the largest migration flow of humanity that the world has experienced since at least the Second World War and perhaps in all of history. Whether people be fleeing persecution, seeking economic opportunity, or rebuilding after force majeure events, the demand for humanitarian relief and longer-term development assistance remains an immediate unquenchable thirst.

Since the end of the Second World War, the United States has been the leader in meeting those assistance needs abroad; but as recent events have demonstrated, we need not look past our own borders to find significant humanitarian and development challenges. Hurricane Maria's destruction across the island of Puerto Rico in September 2017 demonstrated the United States' need to re-examine how we provide not only humanitarian assistance and recovery to our own citizens following catastrophic events, but also how we promote long-term resiliency and growth as well as local ownership of recovery and development.

Outside our borders but still close to home, the decades of combined neglect, benign incompetence, misdirected good intentions and lack of domestic ownership have resulted in Haiti being a case study in both the opportunities and failures of international aid and assistance. Repetitively afflicted by both natural disasters and man-made tragedies, Haiti has become a state both unable and unwilling to free itself from the grip of international aid and assistance anytime soon.

The tragedies of Haiti and Puerto Rico, and similar cases across the world, do not happen in isolation, however. Like the winds that blow across them and the ground that shakes beneath their people's feet, global political, social and economic currents also impact how aid and development reach persons, communities, and countries in need. The new National Security Strategy has made clear that the United States will put its needs first; and, while we will continue to be the leader, at least for now, in bilateral assistance, the time has come for other entities, both governments and organizations, to shoulder greater responsibility. While always quietly understood in the past, assistance is now to be tied much more explicitly to our own economic and national security interests than to our own benevolence.

The efforts of the United States to provide assistance through an industry of reconstruction, having reached its apex during the height of the conflicts in Iraq and Afghanistan, now finds itself at an inflection point. We must now consider how to more effectively deliver the tools of humanitarian assistance, resiliency and development to those in need, in a manner that more evenly distributes the burdens among governments, organizations and private firms while simultaneously breaking the chains of dependency and ensuring our own security. While the success of the United States in adapting to this new reality is not yet determined, there is no doubt that the winds will continue to blow, the earth will shake, people will be on the move, and the need for assistance will be relentless.

## THE RECONSTRUCTION INDUSTRY DEFINED

The complexity of the reconstruction industry belies conventional branding conventions seen in other industries. This “industry” may best be described as what public policy expert Dr. Jo Ann Ewalt describes as an “‘organizational society’ in which many important services are provided through multi-organizational programs.”<sup>1</sup> While there is no universal agreement as to what defines the reconstruction industry, for the purpose of this paper it is the composition of international organizations, governmental agencies, non-governmental organizations, faith and community-based charities and private firms that provide either goods or services related to short term humanitarian assistance or long term development needs (Figure A.1). The diverse market of the reconstruction industry is a “a multi-billion-dollar enterprise which is comprised of an ‘industry-of-industries’ focusing on national security priorities addressing extreme poverty, food insecurity, pandemic disease, conflict, violence, and poor governance that can foster violent extremism, instability, gross economic inequality, transnational crime and other security threats.”<sup>2</sup> Defining this industry is challenged by unclear boundaries between the various entities serving as buyers and sellers, and even more unclear boundaries among the functional objectives of various undertakings. In short, the industry could be dissected in numerous ways, none of them perfect.

Within the Humanitarian Assistance / Disaster Relief (HA/DR) portion of the industry, goods and services provided include but are not limited to: search and rescue, the provision of supplies for immediate food, water, shelter, and medical care; and disaster recovery. Goods and services provided within the longer-term development assistance portion of the industry include: construction supplies and services; educational and healthcare services and equipment; energy services and equipment; micro financing, and technical training and capacity building with regard to market-based principles; and rule of law, transparency, and good governance. The purpose of the provision of such goods and services is to promote political and social stability, economic growth and resiliency so that individuals, communities, countries and regions can provide for their future development and withstand any future shocks and stresses, whether they be manmade or natural.

Entities involved in the reconstruction industry are structured either to directly provide funding, goods, services or technical support to communities in need or to provide funding and guidance to other entities who then perform these functions either in partnership or on behalf of another entity. Those that directly provide these services are commonly referred to as implementers while those that provide funding or direction are referred to as donors.

Donor organizations are comprised mostly of bilateral governmental assistance agencies, such as U.S. Agency for International Development (USAID), the United Kingdom's Department for International Development (DFID), or international organizations, such as the International Bank for Reconstruction and Development (IBRD) or the United Nations High Commissioner for Refugees (UNHCR). More recently, privately-funded organizations such as the Soros Foundation and the Bill and Melinda Gates Foundation, are playing an increasingly larger role as primary donors. While there are literally thousands of organizations and firms engaged in the reconstruction industry, only a relative few receive funding from the primary donor organizations.

The current outlook for foreign assistance indicates a decreasing trend based on the FY 2019 President's budget request for foreign operations of \$27 billion; a decrease of \$12 billion dollars from FY17.<sup>3</sup> USAID is the principle buyer of reconstruction services for the U.S. Government. Chemonics reclaimed its position as the top contractor for USAID in 2016, winning nearly double the contract funding from 2015. The global development consulting firm garnered over \$1 billion worth of USAID financing in 2016, following the award of a \$9.5 billion Indefinite Delivery, Indefinite Quantity (IDIQ) contract in 2015. Tetra Tech and Development Alternatives Incorporated (DAI), meanwhile, were awarded the second and third-highest USAID contract funding, respectively, combining for over \$800 million in obligated funding. Together, these top three recipients comprise 39 percent of all USAID obligated contract funding in 2016.

Domestically, the FY 2018 President's Request for the Department of Homeland Security's Disaster Relief Fund (DRF) totals \$6.093 billion which historically encompasses catastrophic (\$3.435 billion) and non-catastrophic major declaration activities (\$2.658 billion). This also takes into account that the level of disaster activity can vary significantly from one year to the next. In 2017 the impact and recovery efforts related to Hurricanes Harvey, Irma and Maria placed considerable demands on the DRF, as well as state and local governments and the broader U.S. economy. The FY 2019 DHS budget request is estimated at \$6.652 billion for the Disaster Relief Fund (DRF) for response and recovery to major disasters.<sup>4</sup>

## **ANALYSIS OF THE RECONSTRUCTION INDUSTRY'S CURRENT CONDITION**

Businesses across the world operate within the specified environment where they are formed and where they compete. In analyzing the nature of competition within the reconstruction industry, Michael Porter's Five Forces serve as a framework to determine the underlying structure of the industry. As Porter noted, "understanding the competitive forces, and their underlying causes, reveals the roots of an industry's current profitability while providing a framework for anticipating and influencing competition (and profitability) over time."<sup>5</sup> In this regard, the reconstruction industry is no different than the automotive, aircraft, or other more traditional industries. The Five Forces (Figure A.2) are: threat of new entrants; bargaining power of suppliers; bargaining power of buyers; threat of substitute products or services; and rivalry among existing competitors.<sup>6</sup>

### **Five Forces Analysis**

All five competitive forces within the reconstruction industry shape and influence business operations and behaviors of the industry participants; however, some forces hold significantly more influence over the structure and nature of the industry than others.<sup>7</sup> One force with significant influence over the environment and industry is the power of buyers. Primarily, the buyers within the reconstruction industry are represented by a small group of government agencies (from various countries), international organizations, and non-profit organizations. Since the buyers in the industry are almost entirely public-sector organizations with known budgets, aggregate demand is not only inelastic, but widely known by industry suppliers.

Regarding international reconstruction conducted by the U.S. Government, USAID leverages a formal and comprehensive system as the principle buyer and lead federal agency responsible for responding to international disasters and the conduct of reconstruction tasks. In its role as the lead federal agency, USAID works as the U.S. Government representative in an environment that can include response by other nations, international organizations, nongovernmental organizations, and other humanitarian communities.<sup>8</sup> While USAID serves as the lead federal agency to pursue international reconstruction activities, there are several other national, international and supra-national organizations that work with the long list of donors to channel technical and financial resources into a targeted, symbiotic strategy that addresses the world's most glaring gaps.<sup>9</sup>

Within the United States, the Federal Emergency Management Agency (FEMA) serves as the lead federal agency with the responsibility for coordinating government-wide domestic relief efforts and is “designed to bring an orderly and systemic means of federal natural disaster assistance for state and local governments in carrying out their responsibilities to aid citizens.”<sup>10</sup> As the primary U.S. Government buyer, FEMA provides domestic disaster relief through the DRF appropriation. According to FEMA, the DRF supports federal disaster activities such as providing emergency protection and debris removal, the repair and restoration of qualifying disaster-damaged public infrastructure, and other activities.<sup>11</sup>

The means by which USAID and FEMA conduct contracting in accordance with federal law, as well as the process of validating and selecting buyers to compete, further expands the influence of the U.S. Government as the primary buyer within the reconstruction industry. Within the pool of businesses serving as suppliers, some compete for contracts as for-profit firms, while others leverage their role as non-profit organizations to compete for grants. Competition among suppliers in the reconstruction industry manifests with business seeking a larger share of the available funding. This gives heavy weight to the influence of bargaining power of suppliers, as they seek market share by providing the greatest value for the money known to be available. Likewise, the contracting process provides open access to the requirements for projects, therefore differentiation of product is minimally significant to the buyers' position. Instead, buyers capture market share by delivering various products and services efficiently. The market is open to new entrants, but there are barriers that new entrants face, including a required detailed knowledge of U.S. Government contracting, and familiarity with the environment on the ground in countries in which they are to work.

Finally, Porter discusses the threat of substitute products and services.<sup>12</sup> This force is noteworthy in this industry; not because it is particularly strong, but because the way in which substitution manifests and the way that firms compete to impact substitution. With the industry's focus on long-term capacity building, substitution threats come from dissimilar products and services that are deemed to be more impactful in terms of strategic goals.

### **Industry Structure and Conduct**

As previously noted, the reconstruction industry (and virtually all of its sub-industries) operate in a market that is classified as monopolistic competition. Currently, the market is largely controlled by a small consortium of corporations that are either vertically-integrated dominant players or have mastered the contracting process to a degree that they are awarded prime contracts, leaving only niche markets available to smaller competitors. The market is relatively open to new

entrants; however, they face some barriers. First among those barriers is that industry demand is shrinking. Demand is not price-elastic, but rather varies with donor and state sponsor commitment; this commitment is not consistent across the industry segments and can vary significantly from year to year.

The industry structure encourages sellers to seek ways to contend for business across all domains. Vertical integration gives firms a competitive advantage and allows them to accept risk in some areas to ensure an overall profit. Other sellers may choose to establish an advantage in a particular region, taking advantage of early entry, and then close down operations after the demand in that region evaporates. Firms may also be heavily involved in lobbying efforts in favor of regions in which their operations are profitable to extend buyer commitment there.

Furthermore, sellers may attempt to shape demand by leveraging the fact that buyer objectives and budgets are public knowledge, while seller financials are not. Buyers who have operated in this space for an extended period of time may understand the environment better than donors and bureaucrats that are expending funds. This knowledge can serve to shape buyer interests by creating the perception that the seller's product furthers the buyer's objectives to a greater extent than it really does. Sellers can also take advantage of sunk costs and future cost avoidance to extend demand that is shrinking. For instance, sellers in the education arena may market the capacity-building effects of their work along with the threat of lost capacity if a job market does not materialize to prevent the expatriation of knowledge in order to create demand for extended investment in another market in which the corporation operates. This scare tactic may seem unethical but is prudent business for a firm in a market with an approaching sunset.

## **CHALLENGES OF THE RECONSTRUCTION INDUSTRY**

The challenges confronting the reconstruction industry run the gamut from economic, structural, and programmatic issues to government corruption, political instability, environmental degradation, and increasingly migratory populations. The complexities of these challenges are exacerbated due to the structure of the reconstruction industry as an industry-of-industries, with each sector also bringing to bear its own unique difficulties. To provide additional insight into these sector-specific problems; the challenges confronting food security; education in post-conflict areas; and logistics, infrastructure and innovation will be explored in greater detail in the essay section of this report.

Numerous broad-based issues also confront the reconstruction industry as a whole. These issues include poor governance and inadequate rule-of-law; local ownership of problems and solutions, limited support for preventive initiatives; economic challenges, bureaucratic overhead associated with government contracting and oversight; insufficient coordination of aid providers, over-emphasis on quantitative metrics, and adverse impacts to local economies. The U.S. Territory of Puerto Rico and the Republic of Haiti serve as the seminar's case studies for understanding the obstacles confronting both the domestic and international provision of humanitarian assistance, disaster relief, reconstruction, and long-term development assistance.

### **Corruption**

A recurrent theme that has emerged within the reconstruction industry, voiced by government agencies, non-governmental organizations, and for-profit firms alike, is the criticality of good governance and rule of law. These factors serve as foundational building blocks for

effective programs and initiatives, as well as long-term success, in other industry sectors. Faced with this awareness, some U.S. Government agencies, such as the Millennium Challenge Corporation, are mandated to work only with countries that display a level of good governance. Ultimately, aid recipient nations must take ownership of reconstruction efforts, to ensure they meet the needs of their population and are sustainable once foreign assistance is reduced or eliminated.

Recipient countries lacking good governance and where corruption runs high are less likely to achieve sustainable results from reconstruction or long-term development initiatives. According to Transparency International's Corruption Perception Index 2017, Haiti ranks 157<sup>th</sup> out of 180 countries in terms of perceived levels of public sector corruption.<sup>13</sup> Little progress has been made to reduce or end this corruption. Since 2000, USAID has provided more than \$460 million dollars to Haiti for emergency response in the face of recurrent natural disasters.<sup>14</sup> However, lacking effective outcomes, international appetite for continued financial assistance to such countries is waning.

Group recommendations for addressing corruption include: guiding leadership to create an environment of no tolerance towards corruption; training leadership to identify and tackle corruption; setting standards and procedures to ensure anti-corruption policies are effective and adhered to; and building a compliance program including anti-corruption standards to guide leadership and government responsibilities to avoid corrupt behavior. The establishment of independent oversight authorities is another mechanism to reduce public corruption.

### **Limited Support for Preemptive Initiatives**

Unfortunately, in the face of potential funding reductions, there appears to be little appetite for funding initiatives geared solely towards the prevention of violent conflict and the political instability that lead to the future need for humanitarian assistance. There is a common saying that *an ounce of prevention is worth a pound of cure*. Money spent on democracy and peace-building, conflict prevention, good governance, and resilience can significantly reduce the funds required after conflict occurs. However, the preponderance of aid dollars currently goes towards post-disaster and post-conflict initiatives. Given the current fiscal environment more attention and focus should be placed on less costly preventative efforts aimed at building resilience within the target community.

### **Over-emphasis on Quantitative Metrics**

It is difficult to measure the less tangible and less visible efforts aimed at improving governance, fighting corruption, or supporting the rule of law. However, it is these key areas that are both essential and foundational to the long-term success of reconstruction initiatives. Forgoing what is difficult to measure for what is easily measured may respond to the immediate concerns of donors, suppliers, and other overseers. However, it is short-sighted and does not target the more critical and more difficult underlying structural issues that must be addressed in order to achieve lasting results. How do you measure good governance? Or improved political processes? And what time frame is sufficient to adequately measure it? The World Bank Group's Ease of Doing Business index aims to provide some level of relative measurement of the ease or difficulty involved in starting and operating a local business in a host nation.<sup>15</sup> Similarly, the World Bank's Human Development Index seeks to quantify the capabilities of a state's people rather than solely economic growth.

## **Contracting and Government Oversight**

The administrative overhead required to pursue, win, and manage government contracts is often beyond the means of smaller businesses and entrepreneurs, who represent a large untapped market of potentially innovative solutions. Consequently, large aid contracts are awarded to a relatively small number of major companies in the industry. In 2016, Chemonics, Tetra Tech, and DAI collectively received almost 40% of USAID funding, while small businesses collectively garnered only 12% of the available funding.<sup>16</sup> Large firms and companies are able to employ sizeable staffs dedicated to reviewing, bidding on, and subsequently reporting on awarded contracts. More effort should be taken by government agencies to streamline the award process and make the process more accessible to smaller entrepreneurs who can offer significant inroads into development initiatives at the grassroots and local levels.

## **Host Nation Economic Impact**

Within the reconstruction industry, the axiom, “do no harm,” is too often overlooked in the rush to fulfill donor’s good intentions. Free goods and services are provided, under the guise of humanitarian assistance that undercuts and can ultimately destroy local markets and local capacity to provide those same goods and services. An example of this was the provision of free rice to Haiti following numerous natural disasters<sup>17</sup>. Haiti had a thriving agricultural capacity to grow its own rice products. However, the massive influx of free international rice undercut the ability of many rice farmers to compete in the marketplace. Although Haiti is heavily reliant on its agricultural sector which accounts for more than 20% of its GDP<sup>18</sup>, free rice continues to pour into the country. Donors must take greater caution to ensure their actions do not undermine free market principles or create a greater level of aid dependency.

## **Conflict and Climate**

Both internal conflicts and climate change have resulted in huge increases in both internally displaced populations (IDPs) and refugee populations. Worldwide increases in the frequency and severity of natural disasters, ranging from droughts and earthquakes, to tsunamis, cyclones, and hurricanes have prompted many to flee their homes. In addition, political instability and conflict have led to the largest migratory populations since the Second World War. According to the United Nations High Commissioner for Refugees (UNHCR), “an unprecedented 65.6 million people around the world have been forced from home. Among them are nearly 22.5 million refugees, over half of whom are under the age of 18. There are also 10 million stateless people who have been denied a nationality and access to basic rights such as education, healthcare, employment and freedom of movement.”<sup>19</sup> The needs of such a large displaced population represent a considerable challenge to the reconstruction industry and require innovative solutions geared toward building resiliency.

## **Improving Domestic Preparedness and Response**

September 2017 was the most active hurricane month ever recorded in United States' history. Category 5 Hurricanes Irma and Maria hit Puerto Rico within weeks of each other and devastated much of the island. Seven months after the disaster, much of the island still remains in darkness. The slow response and recovery by local, state, and federal agencies is a clear wakeup call that the United States needs to reconsider how it prepares for and responds to domestic emergencies.

FEMA is not manned or financed to be the only agency to provide disaster response. It is not designed to provide long term support, nor should it be. It is the responsibility for state, territorial and local governments to lead the disaster response and recovery. There is a clear gap in support between what the communities need and what the federal government can provide. A collaborative approach to disaster response will improve local communities' recovery efforts and help them rebuild with resiliency. To bridge this gap in federal and local government support, NGOs must step up their role in providing rapid response to natural disasters. The federal government should invest in this NGO partnership through federal grant opportunities and joint training. NGOs partnering with FEMA will be able to provide a rapid and more robust disaster relief response.

## **RECONSTRUCTION INDUSTRY OUTLOOK**

### **Short Term Outlook**

The short-term outlook for the reconstruction industry is difficult to clearly articulate due to financial uncertainty with the Trump Administration's proposed budget cuts to foreign assistance. However, as the global trends for poverty, violence, and natural disasters continue to rise, the need for humanitarian assistance, disaster relief, and long-term stabilization and development programs will be in high demand. Therefore, the reconstruction industry will remain most competitive if it diversifies vertically and horizontally by identifying new buyers overseas and broadening its expertise by expanding into new sectors. Within the U.S. Government, the Department of State and USAID will continue to be the primary sources of contracts for international assistance efforts. If the entire budget for State and USAID is reduced by 26 percent as proposed, most of the larger contractors in the industry have the option to shift their resources to other sectors as they are already multifaceted and well diversified. However, the smaller NGOs and private firms who operate in limited, niche development markets will face stiff competition amongst their peers. Those companies who can distinguish themselves above the rest among multiple sectors will have the most success while others will leave the industry.

If Congress continues to withstand the Administration's proposal to cut the development budget and holds foreign assistance funding at current levels or close thereto, then there will be little impact on the reconstruction industry. In either scenario, the reconstruction industry can be assured that most of the funding allocated to foreign assistance increasingly will be executed in areas where it directly serves the national security interests of the United States.

The 2017 National Security Strategy (NSS) will also shape the short-term outlook for the reconstruction industry. There are numerous areas within the NSS that will not only drive transformation within the industry, but will also reinforce existing methods and processes. First, acknowledgement of a return to great power competition with Russia and China will increase diplomatic competition, which will likely spill over into the humanitarian and development spheres. Second, as the NSS suggests, the United States cannot accomplish this work alone. The United States will encourage like-minded states such as the United Kingdom, Canada, Sweden, Australia, and the European Union (EU) as a whole to partner in foreign assistance worldwide, which should open up new opportunities for industry contractors who are prepared to work with and earn contracts from international partners. Third, the NSS specifically states that "the United States will not be left behind as other states use investment and project finance to extend their

influence.”<sup>20</sup> Additionally, “the U.S. Government must not be an obstacle to U.S. companies that want to conduct business in the developing world.”<sup>21</sup> The reconstruction industry must be prepared to seek opportunities in the international market in addition to the traditional activities provided through USAID. Finally, since a large percentage of the budget is anticipated to shift from Department of State to DOD, the reconstruction industry must be postured to execute legacy missions through DOD or an interagency broker, particularly in countries that are vulnerable to conflict, transnational organized crime, pandemics, or biothreats.

### **Long Term Outlook**

The long-term outlook of the reconstruction industry remains strong, enabling the industry to maintain its preeminent position in the global marketplace. Much of the financial uncertainty discussed in the short-term outlook will have stabilized and the majority of the reconstruction industry will have adapted to the new political and social environment. The ultimate goal of the reconstruction industry remains aligned with that of USAID, which is “to achieve a future in which foreign assistance is no longer needed and to support partners that are self-reliant and capable of leading their own development journeys.”<sup>22</sup> That said, budgets will remain tight requiring the reconstruction industry to change its paradigm on how it makes decisions on the delivery of humanitarian assistance, disaster relief, and long-term stabilization and development programs. Therefore, the primary focus of the industry will require a shift to building resilience, not only in how decisions are made in development programs, but the means by which the industry delivers humanitarian assistance and disaster relief. Building resilience will increase the speed at which assistance and relief are provided, and improve the “ability of people, households, communities, countries and systems to mitigate, adapt to, and recover from shocks and stresses in a manner that reduces chronic vulnerability,” facilitates inclusive growth, and preserves the gains already achieved.<sup>23</sup> The reconstruction industry will also continue its strategic role in reducing the reach of conflict and countering the drivers of violence, human rights abuse, inequality, transnational crime, corruption, and fragility.<sup>24</sup> One of the primary ways to overcome these challenges is to build and reinforce the practice of good governance. Good governance will not only build strong resilience within the state and its communities, it also acts as a gateway for strengthening the services and systems provided to society (Figures B.1 and B.2).

Overall, the reconstruction industry is a highly resilient and capable member of the national industrial base that is well-positioned and experienced to overcome the handful of challenges identified in the previous sections. The reconstruction industry as a whole, from its largest contractors down to its smallest entrepreneurs in the field, have already begun to initiate changes to their business models and decision-making processes to account for the complex challenges associated with conflict and climate change, disaster preparedness and response, and countering the drivers of political and ethnic violence, inequality, corruption and fragility. New long-term development strategies such as building good governance and strengthening community resilience are just a few examples of how the reconstruction industry will ensure its rightful place as a preeminent force in the global market.

### **GOVERNMENT GOALS AND ROLE**

In support of the short-term outlook, the U.S. Government must continue to deliberately fund development activities in those areas that allow it to extend strategic influence to counter the

global expansion of Russia and China as well as to facilitate the promotion of U.S. values and the entry of U.S. companies, goods and services into new markets. To this end, USAID funding must tie to higher level foreign policy objectives that synchronize across time, space and purpose of U.S. national strategic interests. In the long-term, the U.S. Government must adopt strategies that encourage greater private-public partnership and leverage those NGOs that have a demonstrated and proven ability to implement projects in a manner that encourages sustainability, resiliency and self-sufficiency.

Funding reductions in the short or long-term will challenge the reconstruction industry's ability to remain a viable supporting vehicle for the NSS. For this reason, the U.S. Government must give preference to those best practices that provide the greatest return on investment in the short-term and reduce the overall need for development aid in the long-term. Leveraging new partnerships, innovative business models, community designed and owned projects, and synchronized Department of State and USAID efforts will allow the U.S. Government to leverage the reconstruction industry to meet NSS objectives.

### **Disaster Response Potential Actors and Coordination Complexity**

A critical aspect of the reconstruction industry where surge and mobilization efforts take center stage is disaster response. Natural disasters are formidable, multi-layered problems with unyielding frequency. The Center for Research into the Epidemiology of Disasters has identified an annual average since 2000 of 384 disasters, affecting 230 million people worldwide.<sup>25</sup>

Task organizing as a whole of government, along with NGOs and commercial partners, is critical in the time-sensitive disaster response activities of needs assessment, immediate (push) response, stock and equipment procurement, movement into the area, warehousing and distribution, and response-wide status tracking and coordination management.<sup>26</sup>

The sheer number of responding organizations can impair relief efforts, particularly if they do not have a mandate to identify their presence or mission. This uncoordinated response can quickly overwhelm already degraded logistics and infrastructure systems. For the United States, the number of NGOs has increased by ten times since World War II, yet no official U.S. entity actually knows how many NGOs are supporting disaster response or stabilization operations.<sup>27</sup>

Disaster relief operations are inherently complex, where supporting governments, NGOs, international organizations, commercial partners, and local governments risk overlapping effort without effective coordination and information sharing structures. This situation can create additional obstacles or actually increase gaps without understanding the real-time site picture and each group's roles. Figure C.1 reflects the intricate web of a disaster response scenario, showing multiple stakeholders, responding organizations, and coordination linkages. A lack of situational awareness of each group's responsibilities prevents a coherent approach.

A primary goal of the U.S. Government should be to establish a clear coordinating authority across all agencies that would establish a common operating picture of each agency's presence and roles as well as connections to international organizations and national and local government efforts. Moreover, this coordinating lead would ensure each supporting agency is aware of the roles and responsibilities of all parties to maximum efficiency and would reduce mission gaps during a response. To improve pre-onset disaster planning and execution, another objective would be joint interagency coordination exercises and training opportunities across all

geographical regions that would also incorporate international organizations, NGOs, and local support capabilities.<sup>28</sup>

### **Modernize Contracting Procedures**

When looking at reconstruction, innovation is most often reflected in the development and execution of policies, programs, and projects in terms of business models vice specific services or products. The reconstruction industry seems burdened by bureaucracy (not surprising given that it is funded primarily through government grants and contracts) and a business model that has changed relatively little over time. To support horizontal and vertical diversification within the industry and encourage public-private partnerships, the complex, bureaucratic contracting process needs reformation to allow firms greater agility and flexibility in bid preparation. This action would also allow the industry to leverage innovation by encouraging new entrants who would infuse the industry with modern business models. The U.S. Government should specifically aim acquisitions at those firms who employ business models that encourage local community and host nation ownership, consider specific host nation cultural conditions, and employ existing local resources. By doing so, these practices stimulate the host nation economic and industrial base, while reducing the risk for long-term aid dependency and its accompanying budget requirements.

## **INDIVIDUAL ESSAYS ON MAJOR ISSUES**

In 2016, the United Nations implemented 17 Sustainable Development Goals (SDGs) (Figure D.1) to establish sustainable development initiatives over the next 15 years. Critical to the SDG program is demonstrated goal implementation, development progression, and quality data collection as governments must develop national indicators and goals, submitting annual progress to the UN Secretary-General.<sup>29</sup> The following essays explain the urgencies and major challenges facing the international community, specifically industry stakeholders, as they seek to fulfill these SDGs related to education, food security, and infrastructure and innovation.

### **ESSAY #1 – Education as a Pillar of Development**

Providing a strong system of education is a key component of rebuilding a post-conflict society. Cementing global commitment to education as a key to development, the United Nations adopted education as one of the SDGs adopted for review in 2030.<sup>30</sup> Several national and international organizations work with a long list of private donors to channel technical and financial resources into a targeted, symbiotic strategy that addresses the world's most glaring educational gaps.<sup>31</sup> Without deliberate investments from the U.S. government and its implementation partners, education inequities deepen over time; poor children are increasingly unlikely to obtain a quality education, leading to a deepening of the family's impoverishment in the next generation. All these elements contribute to long-term degradation of local and national economic stability and sustainable development. As education is a cross-cutting domain, the reconstruction industry as a whole must rely on a coherent strategy in this space that anticipates and addresses future challenges in other domains.

#### ***Education and Post-Conflict Society***

The education needs of post-conflict areas differ from those of other areas of the developing world. The provision of a solid education, in an inclusive classroom environment, can

serve to create a shared sense of survival and commitment to avoiding future conflicts among children and shorten the length of time it takes for society to heal from the emotional wounds of armed conflict.<sup>32</sup> Community cohesion leads to reductions in crime and violence. Therefore, inclusiveness must be a deliberate goal of educators, as normal societal tendencies will favor a winner/loser mentality without a commitment to heal cultural wounds. Inclusiveness is also an important lever for economic development. A lack of inclusion in an education system, be it based on ethnicity, gender, or religion, is indicative of a lack of commitment to national development; this should be addressed immediately by development planners.

### ***Reconsidering Educational Metrics***

However, education planners should guard themselves against focusing solely on measuring educational development in quantitative terms. While education participation rates, such as the commonly used Gross Enrollment Ratio (GER), are useful in determining the reach of education programs, such measures fail to assess the quality of the education programs or determine the degree to which the programs produce graduates with skills that match the demands of the labor market.<sup>33</sup> The tendency to focus on static metrics is a danger that is inherent in relying on outside developers to plan national education. Many of the common metrics are relevant but fall short of ensuring that education outputs are the desired labor and technology inputs. In this way, educational development programs can overemphasize quantity. Tying education strategy to national interests requires deliberate strategy that unfolds over decades and is constantly adjusted to meet market demands. Any such effort requires a thorough understanding of the nation's political and economic strategy; and therefore, progress is best measured in generational time blocks, vice the three to five-year periods covered by most international development programs.

### ***The Education Gap Created During Conflict***

The educational challenges faced in post-conflict areas are directly attributable to the lack of cohesion between the efforts to support the people displaced during conflict and the post-conflict development efforts. According to the World Economic Forum, more than half of refugees fleeing conflict areas are children.<sup>34</sup> The ongoing Syrian civil war has seen primary enrollment rates drop from 91% to 37%, with higher education participation rates sinking even lower.<sup>35</sup> Add to that reduction the 1.4 million children living in the five major host countries as refugees, and the result is a generation of Syrian youth that is nearly completely void of a formal education in its native land. For those who have fled the country, available education opportunity is usually limited to under-resourced camp schools that are run by NGOs on time-constrained contracts and often are so overcrowded that children are required to attend in shifts throughout the day.<sup>36</sup> These challenges negatively impact the quality of the educational experience, regardless of how strong the teachers and how well designed the curriculum. The negative impact is exacerbated by the seams that exist between the previous education experiences of the children and the current curriculum. The curriculum of a school in Jordan or Lebanon differs greatly from that of a Syrian school, as do the nuances of the Arabic language taught there.<sup>37</sup> Refugees in Turkey must demonstrate mastery of the Turkish language before being permitted to enroll in Turkish schools.<sup>38</sup> Though these children may ultimately achieve academic success, such a major shift in life greatly reduces the chance that these children return to their native land in the future. Thus, the overall impact to Syrian society is a net loss; one that could be an impediment on Syrian society for several generations.

## *Closing the Gap*

In order to avoid a multigenerational decline in productivity of the Syrian labor force, forward-thinking planners must plan and deliver an education program to all of the youth in an area affected by conflict; whether they remain in the national system or end up displaced from their communities.

Simply providing an education for displaced and minority populations is insufficient. During the early years of the Kosovo conflict, ethnic Albanian Kosovars developed a parallel education system, financed through taxes levied on the diaspora, as a means of resisting the Serbian oppression of their culture.<sup>39</sup> While this system was heralded as a symbol of sovereignty, it, and those who resisted UN efforts to reform it, directly contributed to the existing 30-year gap in the region's national education system and the economic struggles that continue as a result of critical skill gaps in the labor force.<sup>40</sup>

In order to shorten the recovery period of a post-conflict society, intervening organizations must view education as a primary need of affected people; following closely behind immediate life-sustaining needs such as water, food, shelter, healthcare, and sanitation. In the case of the Syrian refugees, immediate effort should be concentrated on developing a common education platform that can be administered to the portions of the population that reside within the boundaries of Turkey, Jordan, Lebanon, Egypt, and Iraq. This program should be synchronized with the education being provided for those children who are able to continue attending school in Syria. Most importantly the education curriculum must be connected to Syria's strategic interests (beyond cessation of conflict). Politics aside, the classroom should serve as a vital link between the nation's past and its future; to include informing students regarding the issues that created the armed conflict that they endured.

The challenge of implementing a sound education strategy in Syria is complicated by the fact that the future governance of the country is still in question.

### *Essay #1 - Conclusion*

While the world recognizes the important role of education in reconstructing post-conflict society, current development practices are disparate, at best, and fail to integrate political and economic interests in the development of education programs. The United States must lead the international effort to reform educational development efforts in areas affected by violent conflict. Advancements in education are imperative for ensuring an inclusive society and directly contribute to national economic growth potential by providing a diverse and productive workforce that understands the country's role in international markets. Building this knowledge base takes time. Given the long-term risk to national well-being, development planners must take a strategic position toward education when addressing areas of armed conflict. Educational planning must occur early in the conflict and resist the urge to trade its long-term focus for marginal increases in short-term metrics. By leading this effort, the United States can simultaneously advance security interests and reduce the long-term costs of stabilization and development.

## **ESSAY #2 – Food Security as a Pillar of Development**

The last decade witnessed a prolonged economic crisis that significantly impacted all parts of the world. While the global economy has rebounded in the past few years, there remain substantial global challenges associated with food security. Generally speaking, food security refers to the availability of food and the access to it for all citizens of a nation. Hunger continues to rise since the 1996 World Food Summit, where the United States in conjunction with other stakeholders across the international community established a goal to reduce the number of undernourished people by half by 2015.<sup>41</sup> Despite this optimistic goal for 2015, by 2017 over 17 percent of the global population were still living without access to a daily caloric target of 2,100 calories.<sup>42</sup> Thus, in 2017 the UN included eliminating hunger as one of its SDGs. Despite the international focus on providing food security and ending global hunger, this challenge is not a result of insufficient food, but instead inefficient harvesting practices, food waste, and conflict all negatively impacting food availability to those in need.<sup>43</sup>

Food security, as established by the United Nations Food and Agriculture Organization (FAO) “exists when all people, at all times, have access to sufficient, safe and nutritious food to meet their daily dietary needs and food preferences for an active and healthy life.”<sup>44</sup> Frameworks and data allow for a better understanding of elements that can adversely impact food security for a given nation, allowing government organizations, companies, non-government organizations, and international organizations to better project national and regional food issues and humanitarian assistance requirements before they reach a critical state. To this end and building on the momentum of the United Nations Millennium Development Goals (MDGs), the United States enacted the Global Food Security Act of 2016 (GFSA). Since its establishment, this act seeks to guide the United States' effort through government agencies and implementing partners to fight global hunger and support food security initiatives.

### ***Global Food Security in the 21st Century***

Indicators show that world hunger is again on the rise. The preponderance of this increasing food insecurity can be traced back to rising conflict and the added challenge of climate-related shocks, both of which continue to be a global long-term challenge.<sup>45</sup> Figure E.1 illustrates how the number of food-insecure people remained relatively steady or declined from 2007 to 2014 before sharply increasing in countries with chronic food security issues and susceptibility to shocks.<sup>46</sup> Despite this sharp increase, indicators continue to show that the quantity of food produced globally is sufficient to feed all the world's hungry. This particularly unsettling fact is due to the uneven distribution of food supplies across the globe; where wealthy nations are capable of producing a large surplus and developing countries fail to have enough food to provide their citizens with the opportunity for a healthy life.<sup>47</sup>

It is widely accepted that international efforts to improve food security and the uneven distribution of food supplies require a dual-track approach of short-term or immediate relief and long-term rural development and productivity enhancement, seeking to provide fundamental structural changes. Critical to each method of engagement is the assessment and identification of vulnerable groups, populations, and nations. Together, both tracks provide a mechanism to address availability, access and utilization, and stability in food security.<sup>48</sup> According to the United Nations Sustainable Development Goals, an additional \$267 billion per year invested would end world hunger by 2030.<sup>49</sup>

In the short-term, food availability is provided through food aid, access through social rehabilitation programs, and stability through peacebuilding efforts. The long-term requires investment in rural markets and infrastructure, access through improvements in land access, and finally stability through the reintegration of refugee and displaced persons.<sup>50</sup> While these descriptions provide only a small example of the many available programs directed at improving food security; the focus of the international community led by FAO is that the “business-as-usual” approach did not work well in the wake of the economic crisis.<sup>51</sup>

Past experience and empirical evidence provide much of the necessary information to address the way ahead regarding food security. Across the globe, agriculture remains the largest employer, providing jobs for 40 percent of the global population. Furthermore, 80 percent of food consumed in the developing world comes from a half-billion small farms worldwide.<sup>52</sup> During times of economic crisis, public investment in agriculture declines, resulting in significant increases in hunger and poverty. Additionally, evidence shows that support to agricultural programs should be increased using the aforementioned dual tracks to improve food security.<sup>53</sup>

### ***U.S. Food Security Strategy and Framework***

Recently, the United Nations Sustainable Development Goals (SDGs) served to guide the United States' response with the enactment of the Global Food Security Act of 2016 (GFSA).<sup>54</sup> The GFSA and supporting Global Food Security Strategy (GFSS) provide for a whole-of-government approach to achieving global food security and support the range of SDGs. In conjunction with partners from the private sector, academic institutions, and civil society, the U.S. Government developed the GFSS to achieve the following interrelated and interdependent objectives:

1. Inclusive and sustainable agricultural-led economic growth
2. Strengthened resilience among people and systems
3. A well-nourished population, especially among women and children<sup>55</sup>

The GFSS guides a food security framework with nine intermediate results that outline the approach to achieving the three objectives. Furthermore, the GFSS establishes six cross-cutting intermediate results that are “foundational to all areas of food security and nutrition and contribute to achieving the Intermediate Results, and thereby all three Objectives.”<sup>56</sup>

The resulting U.S. Government Global Food Security Strategy Results Framework (GFSSRF) is shown in Figure E.2. The GRSSRF presents a pathway to reducing food insecurity and nutritional requirements, and many of the underlying causes of food insecurity are addressed within the intermediate results. Furthermore, the framework allows for flexibility to U.S. programs and engagement worldwide ensuring each is best suited to the conditions within a particular nation or region.

### ***Building a More Effective Food Security Framework***

What is not readily evident from the GFSSRF is how factors outside of the framework’s objectives and intermediate results weigh on a nation’s ability to maintain an acceptable level of food security. GFSSRF Objective Two focuses on the resilience of people and systems to ensure “the ability to reduce, mitigate, adapt to, manage, and recover” from shocks and stresses.<sup>57</sup> However, this objective and underlying intermediate results fail to fully consider external factors such as political stability, democratization, and transportation capability and their impact on food

security. By identifying the correlation of these factors to food security, the expanded framework would help to identify additional sources of food insecurity. Furthermore, by considering the impact of political stability, democratization, and transportation the GFSSRF would help the U.S. Government better understand the outcomes of U.S. Government engagement and the measurement of food security programs implemented at the national and regional level.

In order to expand the existing GFSSRF, the impact of each category should be studied independently to avoid complementary or synergistic effects. Concerning political stability, research must consider the correlation between the effects of internal strife on physical security and the impact these challenges have on food access and production. For democratization, a focus on the equitable allocation of national resources and funding, as well as the correlation to physical health and the previously mentioned nutritional gaps must be considered. Finally, with respect to transportation capability, the GFSSRF should consider methods and density of transportation networks, as well as the direct and indirect impact transportation networks have on food access and utilization. By applying qualitative or quantitative values to these variables, an understanding of how they relate to food security as well as national security, in general, is intended to be gained with this study and expanded GFSSRF.

### ***Challenges to an Expanded U.S. Government Global Food Security Strategy Results Framework***

In further developing the GFSSRF to account for the impact of political stability, democratization, and transportation capability on food security, significant challenges associated with actually measuring and analyzing data emerge. Additionally, access to geographical regions due to conflict and degraded physical security exacerbate the ability to apply a framework in a particular country. Examples would include Somalia or other regions where the influence and strength of the government are significantly degraded due to conflict. Another challenge to the framework is the reliance of illicit crops related to drug manufacture and trafficking. The profit for this trade is significant, and the services and agribusiness associated with the trafficking of illegal drugs are well established; however, the financial benefits to the local population and national government frequently go unmeasured. Finally, with the identified variables, culture can present a challenge to implementing food security programs. By mitigating the impact of these challenges, the expanded GFSSRF will serve to better inform the implementation of food security programs at the national and regional level.

### ***Essay #2 - Conclusion***

The GFSSRF provides the U.S. Government with a framework for tailored engagement and provides focus to the effectiveness of data and impact indicators to more accurately project food security. Furthermore, the GFSSRF focuses on the impact of key elements that can adversely impact food security for a given nation. While other methods rely on agricultural based data and statistics, the intent of the provided recommendations is to expand on an existing framework. By leveraging the additional considerations of political stability, democratization, and transportation capability on food security the GFSSRF will better serve the U.S. Government in the implementation of food security programs. The U.S. Government's ability to project and support national and regional food security programs before they reach a critical state, as well as verify other data and statistical methods commonly accepted by the international community in the study of food security, serves to alleviate suffering and expand worldwide security.

### **ESSAY #3 – Industry, Infrastructure, Innovation as a Pillar of Development**

Effective investments in infrastructure such as transportation and information or communication technology are critical to fragile communities reaching sustainable development. The U.S. government, through its broad range of private and public implementing partners, must support locally sustainable project investments in these core infrastructures. Improving the quality of these infrastructures ensures increased access to health care, education, and local markets, while helping local communities achieve social, economic, and political goals.<sup>58</sup>

To counter the complexity of disaster relief operations, investments in innovative technology can help mitigate impacts from the disaster magnitude including degraded communication and transportation infrastructure, geographical access, and coordinating the number of organizations directed to or wanting to assist with relief support often from multiple countries. Regrettably, supporting governments, NGOs, international organizations, commercial partners, and local governments can overlap efforts, create additional obstacles, or unintentionally increase gaps without a common understanding of the current operational picture and each group's roles.

#### ***A Critical Need for a Common Operating Picture for Disaster Relief Logistics Support***

An accurate Common Operating Picture (COP) in a disaster response environment is necessary to understand the precise situation on the ground as well as what organizations are already in place, and how they could support. Outside organizations can duplicate efforts or produce internal mission creep, creating gaps and inefficiencies.<sup>59</sup> The goal is to reduce redundancy and prevent additional clogging of degraded logistics and distribution capacity.

Understandably, information sharing and unity of effort are critical to receive, validate, and prioritize requirements with resource feeder systems coming from the local community, international organizations, NGOs, and other supporting organizations and governments supporting the effort.<sup>60</sup> Collaboration and partner relationships are critical for effective distribution and supply chain operations, as they benefit customers (recipients of disaster relief), suppliers (contractors, NGOs), and service providers (governments, international organizations).<sup>61</sup>

#### ***International Logistics Task Organization and Need for Innovation***

To understand how a more effective COP can support disaster relief operations, we must consider how international organizations such as the UN respond logistically to a disaster through their development goal framework and their functional cluster system. With respect to logistics and technological innovation, SDG Goal 9, "Industry, Innovation and Infrastructure," focuses efforts on building resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering innovation.<sup>62</sup> The intent is to encourage national investments in infrastructure, transportation, and communication to achieve sustainable development and economic growth.<sup>63</sup> As these capabilities strengthen, a nation will have more resilient infrastructure and essential services to weather a disaster and respond internally.

The UN has established a cluster system as a coordination base to support a host nation during a disaster response. The UN provides distribution, supply, and other logistics service

support through the Logistics Cluster with the World Food Program as the functional manager.<sup>64</sup> The UN Logistics Cluster could benefit from a COP repository of national data prior to disaster onset, as it could give insight to infrastructure capacity and capability, population demographics, economic status, and current risk reduction strategies.

One system that could inform this national-specific data system is the UN Sendai Framework for Disaster Risk Reduction. The framework's priorities focus on understanding a nation's disaster risk, strengthening governance, and enhancing preparedness for an effective response.<sup>65</sup> By informing through these priorities, nations provide a more robust COP to the UN Office for Disaster Risk Reduction that enables more targeted support recommendations and more opportunities for targeted capacity investment. Unfortunately, many nations are moving at a glacial pace in providing information into the framework. Currently, only 35 of 195 nations are populating the required target reports, and the UN has fully validated zero nations.<sup>66</sup>

### ***Innovative Technological Solutions Supporting Disaster Response Logistics***

Technologies such as unmanned systems and biometrics can help advance COP capability. An essential requirement for an effective, accurate COP is intelligence and surveillance capabilities before, during, and after a disaster. The use of unmanned systems such as drones can enhance disaster response efforts and decision-making in understanding a disaster's enormity. Drones dispersed simultaneously could more rapidly provide time-critical infrastructure and distribution network degradation information and help determine response priority.<sup>67</sup>

The commercial partnership opportunities of the drone industry are increasing. The United Arab Emirates hosts an annual competition called "Drones for Good" to generate innovative ideas for drone use such as quality of life, safety, or improved communication capabilities.<sup>68</sup> The 2017 competition saw over 800 submissions from 57 countries for town planning, public health, logistics, and the environment.<sup>69</sup> Aerospace analysts estimate the drone sector will grow from \$72.5 million worldwide in 2015 to nearly \$1.1 billion by 2023.<sup>70</sup> One example comes from 4-Front Robotics, a Canadian company, that uses a shoe-box sized drone designed to reconnoiter confined spaces in industrial disasters such as fires or collapsed facilities or mines.<sup>71</sup> Another example is from Falcon Viz, a Saudi Arabian company that utilizes drones by dropping thermal sensors to detect possible signs of life on the ground.<sup>72</sup>

An additional long-term technological advancement comes from the Defense Advanced Research Projects Agency called the Gremlin program.<sup>73</sup> The concept utilizes small unmanned air vehicles at multiple, parallel intervals, launching from a single mother aircraft, to provide sensor capability. These assets could provide real time, simultaneous imagery of a disaster across multiple locations. Uses could include delivering small packages of critical items or leaflets in local language to provide information.

Another area where innovative technology can inform logistics service support to a crisis is understanding demographics. Needs assessment is one of the first priorities in a disaster response to understand population and cultural characteristics to provide appropriate support.<sup>74</sup>

Mercy Corps has identified biometric identification as a way to confirm citizenship, monitor mass movement, provide visibility on services required, and track overall trends.<sup>75</sup> The organization is experimenting with a combination of biometric digital identify, blockchain, and cloud databases to streamline dissemination of identity and service information in a secure environment.

### *Essay #3 - Conclusion*

The incorporation of a Common Operating Procedure and introduction of these specific technologies can enable a more comprehensive sight picture of the crisis scope and provide more responsive, precise solutions to support requirements for medical, education, or other unique demographic needs during disasters.

#### **CONCLUSIONS OF INDUSTRY STUDY FINDINGS:**

With its unique composition of multiple governmental agencies, non-profit organizations and for-profit firms, the reconstruction industry remains highly fractured yet essential as a provider of both immediate humanitarian assistance and long term sustainable development. With the increasing severity and frequency of natural disasters affecting populated areas, the largest movement of refugees in history, and the growing fragility of nation states, the demands upon the industry are perhaps at its greatest. Paradoxically, the financial willingness of the U.S. Government to meet these challenges is quickly diminishing, as the 2017 National Security Strategy demonstrates through its prioritization of defense over development. Whether by policy choice or avoidance, it is likely that the Department of Defense will increasingly be called upon to support humanitarian and reconstruction efforts within the United States as well as abroad.

If we are to improve resiliency and to stem the tide of fragility, the industry needs to become more proactive and incorporate a series of reforms geared toward increasing its efficiency and effectiveness. These reforms, as addressed in this paper, include:

- **Simplify Contracting Procedures:** Led by both USAID and FEMA, U.S. agencies need to simplify and expedite contracting procedures related to the delivery of humanitarian assistance and long-term development programs, working more closely with potential implementing partners in the design and structure of specific projects.
- **Further Promote Private Public Partnerships (PPPs):** USAID should expand its system of PPPs to meet future development challenges in partnership with private firms that have demonstrated willingness and ingenuity. In addition to fostering a more collaborative environment, PPPs would more evenly distribute the financial burden of development.
- **Expand Market-based Principles and Innovative Technologies:** U.S. agencies should take further steps to make certain assistance projects do not undermine market-based principles. Agencies should also work more closely with private and non-profits to incorporate at an early stage innovative technologies into development projects.
- **Tackle Corruption:** Other than immediate humanitarian aid, U.S. assistance increasingly should be tied to a host country's willingness and ability to address the roots of corruption. In countries with poor records of corruption, U.S. assistance projects should be focused on increasing transparency and strengthening the rule of law.
- **Revise Project Monitoring and Evaluation:** USAID should adopt longer-term metrics that more adequately capture the qualitative aspects of development and their impact on human capacity. Simultaneously, requirements for monitoring and evaluation should become less cumbersome on implementing partners, freeing up additional funds for future projects while still guaranteeing a good investment of U.S. taxpayer money.
- **Improve Domestic Preparedness:** Working with state and local agencies as well as NGOs, FEMA should strengthen the capabilities of local actors to improve resiliency and the capacity

to respond to natural disasters. This could be done best through a system of federal block grants.

The incorporation of these reforms, coupled with adequate federal funding that reflects future global challenges, will ensure that the reconstruction industry remains a healthy and vital component of our industrial base capable and ready to provide not only humanitarian and long-term development assistance but able to contribute to our broader national security mission.

# APPENDICES

## Appendix A. Reconstruction Industry

Figure A.1 - Reconstruction Industry Overview

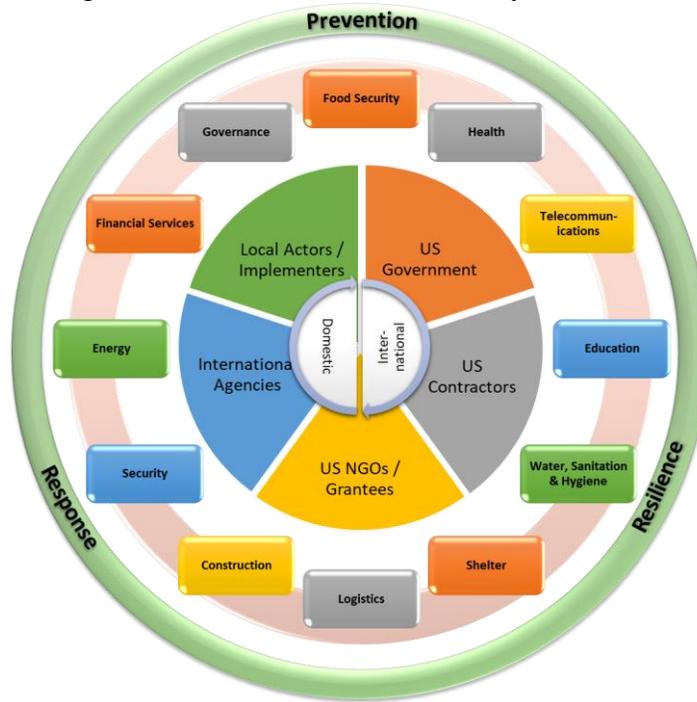
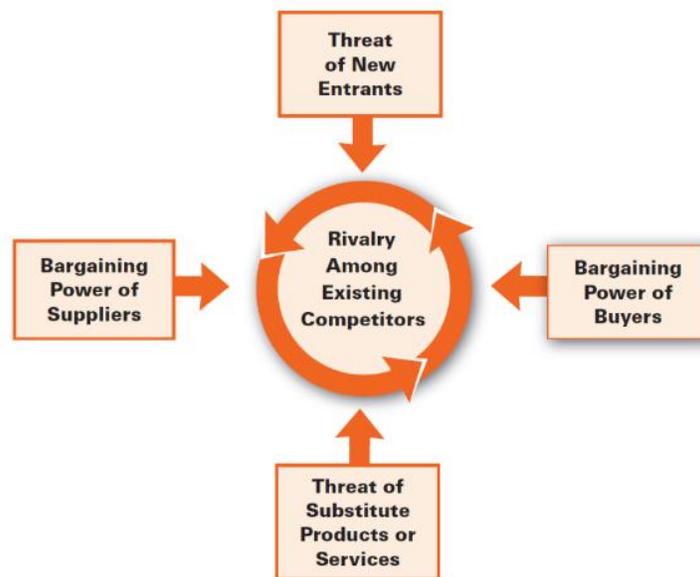


Figure A.2 - Five Forces Analysis<sup>76</sup>

### The Five Forces That Shape Industry Competition



## Appendix B. Good Governance

Figure B.1 Good Governance (as defined by ISSAT and UNESCAP)<sup>77,78</sup>



### Participation

Participation by both men and women is a key cornerstone of good governance. Participation could be either direct or through legitimate intermediate institutions or representatives. It is important to point out that representative democracy does not necessarily mean that the concerns of the most vulnerable in society would be taken into consideration in decision making. Participation needs to be informed and organized. This means freedom of association and expression on the one hand and an organized civil society on the other hand.

### Consensus oriented

There are several actors and as many view points in a given society. Good governance requires mediation of the different interests in society to reach a broad consensus in society on what is in the best interest of the whole community and how this can be achieved. It also requires a broad and long-term perspective on what is needed for sustainable human development and how to achieve the goals of such development. This can only result from an understanding of the historical, cultural and social contexts of a given society or community.

### Accountability

Accountability is a key requirement of good governance. Not only governmental institutions but also the private sector and civil society organizations must be accountable to the public and to their

institutional stakeholders. Who is accountable to whom varies depending on whether decisions or actions taken are internal or external to an organization or institution. In general an organization or an institution is accountable to those who will be affected by its decisions or actions. Accountability cannot be enforced without transparency and the rule of law

### Transparency

Transparency means that decisions taken and their enforcement are done in a manner that follows rules and regulations. It also means that information is freely available and directly accessible to those who will be affected by such decisions and their enforcement. It also means that enough information is provided and that it is provided in easily understandable forms and media.

### Responsiveness

Good governance requires that institutions and processes try to serve all stakeholders within a reasonable timeframe

### Effectiveness and efficiency

Good governance means that processes and institutions produce results that meet the needs of society while making the best use of resources at their disposal. The concept of efficiency in the context of good governance also covers the sustainable use of natural resources and the protection of the environment.

### Equity and inclusiveness

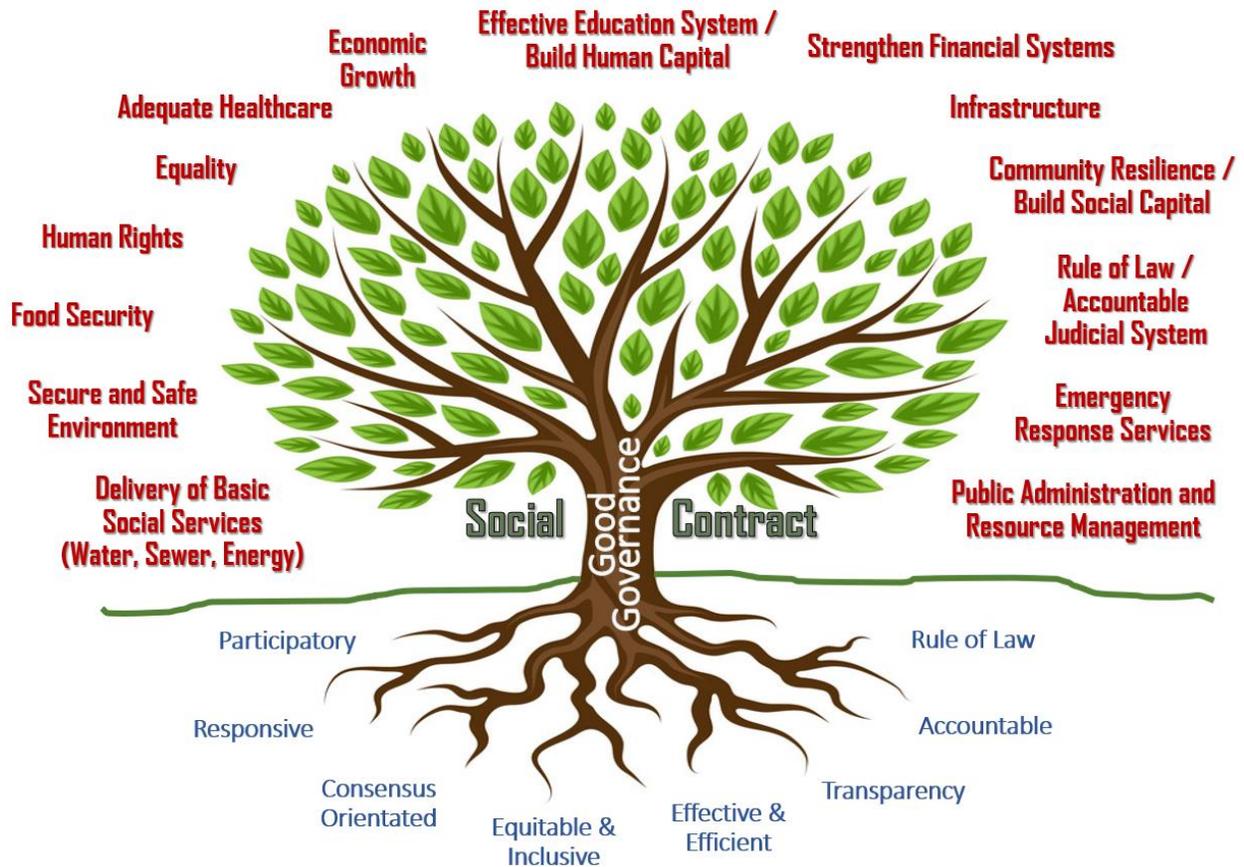
A society's well-being depends on ensuring that all its members feel that they have a stake in it and do not feel excluded from the mainstream of society. This requires all groups, but particularly the most vulnerable, have opportunities to improve or maintain their well-being.

### Rule of law

Good governance requires fair legal frameworks that are enforced impartially. It also requires full protection of human rights, particularly those of minorities. Impartial enforcement of laws requires an independent judiciary and an impartial and incorruptible police force.

**Figure B.2 The Tree of Resilience (building strong resilience through Good Governance)**

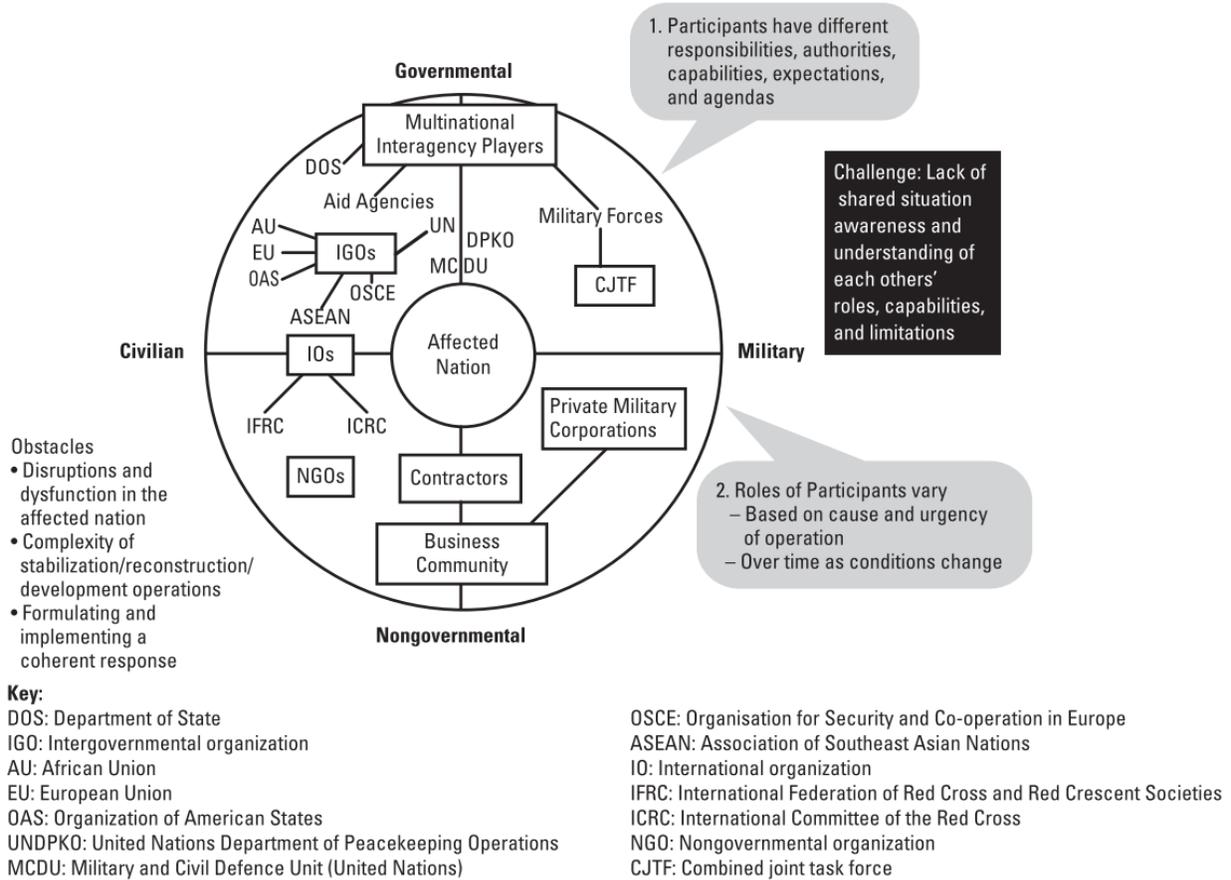
Good governance is a driver of favorable outputs. Picture the overall concept of building resilience as a tree, where the trunk represents good governance and the roots represent the interlocking elements that support good governance. The buds or fruit on the tree represent vital outputs, services, or systems that are products of good governance. The collective strength of the branches represents the strength of the social contract between good governance and the outputs to society.



## Appendix C. Government Goals and Roles

Figure C.1 - Disaster Response Potential Actors and Coordination Complexity<sup>79</sup>

Figure 14–1. Civil-Military Players in Complex Operations



Source: Martin Lidy, Institute for Defense Analyses.

## Appendix D. Sustainable Development Goals

Figure D.1 - United Nations Sustainable Development Goals (SDG)<sup>80</sup>



## Appendix E. Food Security

Figure E.1 - Food Insecurity Trends from 2007 to Mid-2017<sup>81</sup>

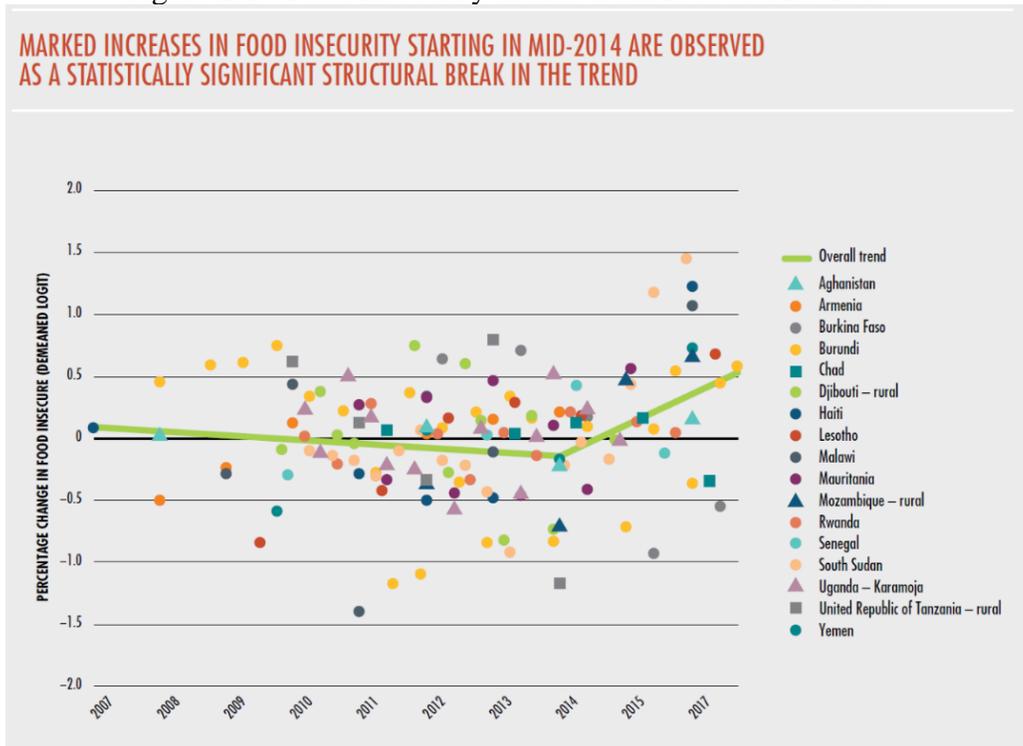
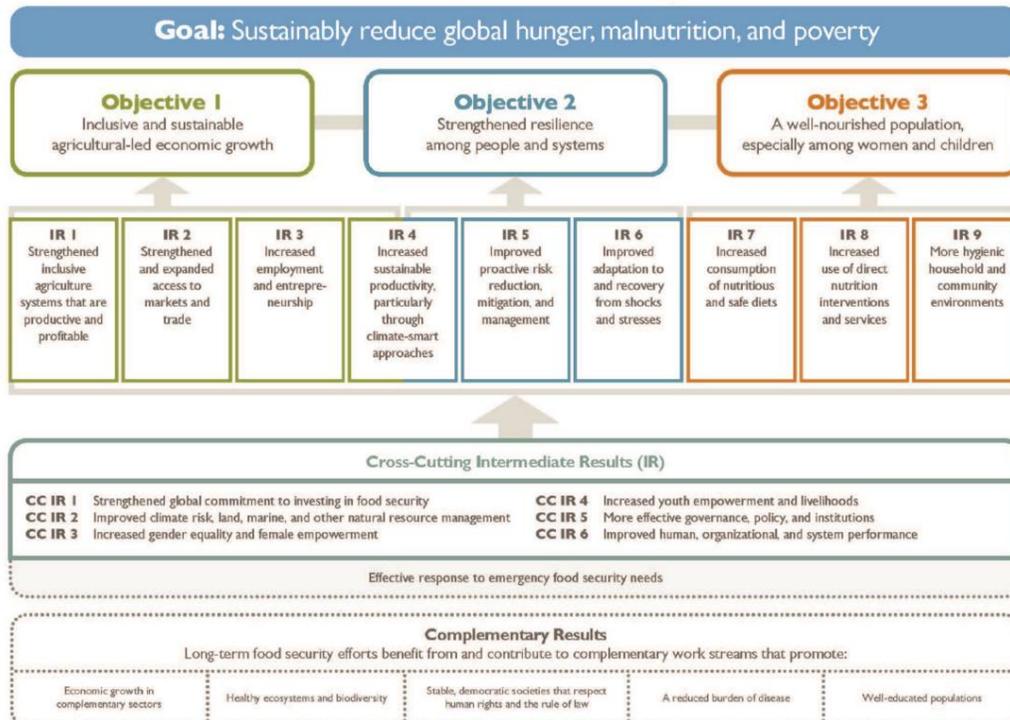


Figure E.2 - U.S. Government Global Food Security Strategy Results Framework<sup>82</sup>



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<sup>1</sup> Jo Ann Ewalt. “Theories of Governance and New Public Management: Links to Understanding

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Welfare Policy Implementation,” *UNPAN Document Management System*, <http://unpan1.un.org/intradoc/groups/public/documents/ASPA/UNPAN000563.pdf>, accessed January 19, 2018

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<sup>4</sup> Department of Homeland Security: FY 2019 Budget In-Brief, “Budget Request Overview”, (Homeland Security), p.1, accessed on May 8, 2018, <https://www.dhs.gov>

<sup>5</sup> Michael Porter. “The Five Competitive Forces that Shape Strategy,” *Harvard Business Review*, January 2008, 79-93. p. 80.

<sup>6</sup> *Ibid*, p. 80.

<sup>7</sup> Michael Porter. “The Five Competitive Forces that Shape Strategy”, *Harvard Business Review*, January 2008, 79-93.

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