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Decentralized Humanitarian Aid Deployment;

Reimagining the Delivery of Aid

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26 **Abstract components:**

- 27 ● Purpose: Current centralized humanitarian aid deployment practices may encourage  
28 urbanization thereby weakening short and long-term resiliency of lower-income countries  
29 receiving aid. The purpose of this study is first, to explore these shortcomings within the  
30 peer-reviewed literature and, second, propose a starting point for a solution with a  
31 Decentralized Humanitarian Aid Deployment (DHAD) framework.
- 32 ● Design/methodology/approach: The authors conducted a focused, qualitative review of  
33 available and relevant literature.
- 34 ● Findings: The literature reviewed demonstrates that current centralized humanitarian aid  
35 deployment models lack meaningful engagement of local assets while indicating a plausible  
36 connection between these same models and disaster urbanization. Next, the literature shows  
37 introducing a new decentralized model could represent a sustainable aid deployment  
38 standard for that country's specific response, recovery, mitigation, and planning  
39 opportunities and constraints.
- 40 ● Research limitations/implications: The next step is to develop a working DHAD model for a  
41 lower-income country using a multi-layered, GIS analysis that incorporates some or all of  
42 the socioeconomic and environmental variables suggested herein.
- 43 ● Practical implications: The practical potential of the DHAD framework includes establishing  
44 the impacted country in the lead role of their own recovery at the moment of deployment, no  
45 longer relying on foreign logistics models to sort it out once aid has arrived.
- 46 ● Originality/value: This paper discusses a topic that much of the literature agrees requires  
47 more research while suggesting a new conceptual framework for aid deployment best  
48 practices which is also largely absent from the literature.
- 49 ● Keywords: urbanization, migration, supply chain, aid deployment, humanitarian aid

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## 56 **1. Introduction**

57 Delivering aid into a country in crisis that dictates or encourages even the slightest shift in  
58 population (e.g., asking farmers or fisherman to "urbanize" and sell flowers), violates the  
59 humanitarian principles of humanity and impartiality. Furthermore, centralized deployment of  
60 humanitarian assistance that focuses solely on operational logistics ignores both short and long-term  
61 effects on lower income countries experiencing a disaster. In 2010, the number of people living in  
62 or just outside city centers in permanent slums surpassed one billion for the first time (Duijsens,  
63 2010) and this number is continuing to climb fueled, in part, by the increase in frequency and  
64 intensity of disasters. In 2015, the world population of 7.3 billion was projected to be 9.7 billion by  
65 2050 (UN, 2015). Global wealth per capita trends suggest that higher-income countries will tend to  
66 get richer while lower-income countries will be poorer (Kohlhase, 2013). Being poor is one of the  
67 most significant factors leading to heightened vulnerability (Tierney, 2006; Julca 2012; Manyena et  
68 al., 2011) and so this projected gap in wealth sets the stage for continued disaster response-related  
69 urbanization unless a fundamental change takes place in the way aid enters a country. Lower-  
70 income countries will not be able to realize adequate buildings and infrastructure to adapt to the  
71 present rate of urbanization. This means the aid community is going to find itself firmly in the  
72 middle of more urban crises in the next decade and beyond (Earle, 2017).

73 This connection that exists between current aid deployment and rapid, unplanned "disaster  
74 urbanization" violates humanitarian principles by actively encouraging migration patterns within a  
75 sovereign nation that would not otherwise occur without the infusion of this concentrated resource.  
76 Centralized aid camps are the embodiment of the "aid magnet" theme, acting as a stepping stone for  
77 permanent migration from rural areas for those not directly impacted by the disaster. Sixty percent  
78 of internally displaced persons (IDP's) and 80% of refugees reside in urban areas - many choosing  
79 to move toward established cities than remain in temporary camps (Park, 2016). "For the landless

80 peasants, the refugee center represents the first step in a permanent migration to a city or another  
81 population center” (Belcher and Bates, 1983). Cities do, however, offer scalable consumer markets,  
82 financial might (banks), regional and international transportation, more advanced communications,  
83 and political power. “Unregulated and poorly planned rapid urbanization has increased the  
84 exposure and vulnerability of urban populations to both natural disasters and complex emergencies”  
85 (The Sphere Project, 2015). Indeed, imported resources that immediately exceed the existing state  
86 of a lower-income country define these developmentally harmful aid magnets. “By servicing  
87 camps, the humanitarian sector has created incentive for people to become permanently relocated  
88 and increasingly urbanized” (Slim, 2015). Temporary disaster response orphanages, for example,  
89 have been overrun by outlying populations, leading to squalid and dangerous conditions for all  
90 those in need, with mortality rates exceeding those in rural areas untouched by the disaster  
91 (Winthrop, 2010). In short, future resiliency can be improved when any form of aid deployment is  
92 accountable to all sectors of an economy in crisis - not just those that can survive in and around a  
93 city.

94 While the literature was rich in foreign supply chain logistics models evaluated in a vacuum,  
95 there was a lack of research on country-specific humanitarian supply chain models that integrated  
96 local resources (Behl and Dutta, 2018). Additionally, an absence of literature into aid deployment  
97 best practices leads our study to suggest broadening the criteria that govern where humanitarian aid  
98 first deploys into lower-income countries. This concept of Decentralized Humanitarian Aid  
99 Deployment (DHAD) proposes a best practice model where resource deployment into a sovereign  
100 nation would follow an ethically grounded, multidisciplinary, and country-specific plan that uses a  
101 network of decentralized, preplanned sites to support countrywide economic stability. Today,  
102 however, the focus remains on the humanitarian organization and how their foreign aid templates  
103 can impose a framework on a region in need (Bealt and Mansouri, 2018). The proposed DHAD

104 model should not be confused with a more advanced or alternative “pre-positioning” of aid in lower  
105 income countries. Pre-positioning of aid centers tend to reinforce country-agnostic templates  
106 focused largely on logistical results. Additionally, the literature demonstrates that, under no  
107 circumstance, should any form of aid be imposed on an impacted nation and priority should always  
108 be given to strengthening local capacities by employing, purchasing, and trading locally (IFRC,  
109 1994; Winthrop, 2010). Accounting for the economic, social, and environmental opportunities and  
110 constraints of each country is the foundation that will drive new, multisectoral and  
111 multidimensional thinking in aid deployment. “Aid delivery must adapt by using a geographically  
112 targeted, multi-sectoral, and participatory approach” (Parker, and Maynard, 2015). Furthermore,  
113 humanitarian organizations’ focus on free services, or cheap options, is not a viable methodology  
114 and should be replaced with meaningful, local partnerships that will ultimately save more lives  
115 (Bealt et al., 2016).

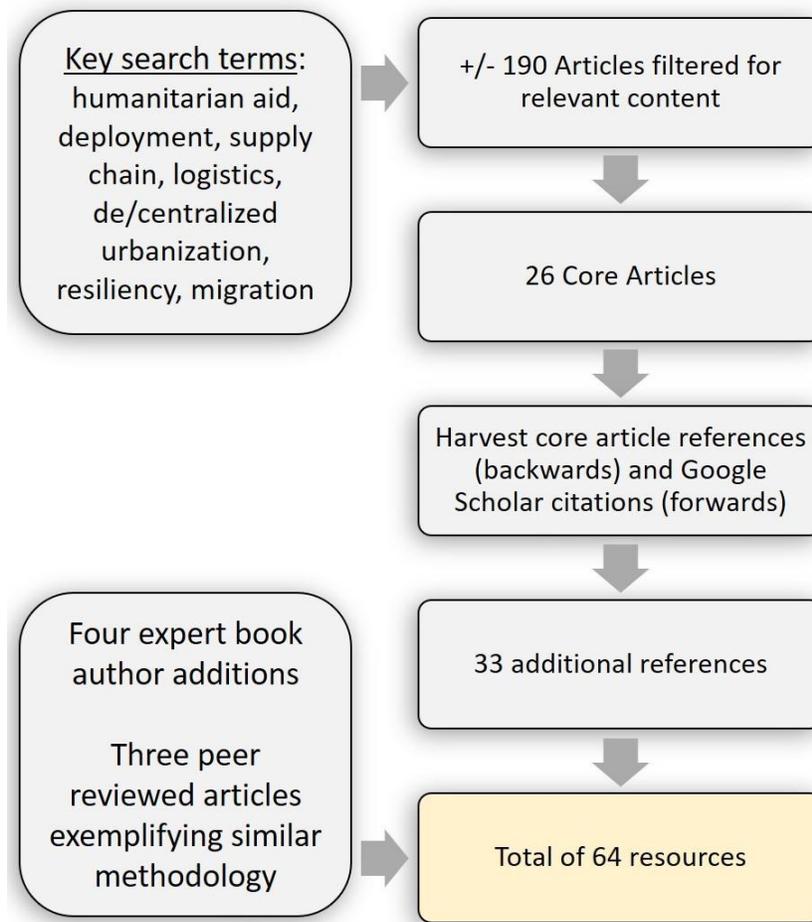
## 116 **2. Purpose**

117 The purpose of this focused literature review and qualitative study is to develop a foundation  
118 of thought that supports the use of country-specific, decentralized points for humanitarian aid  
119 deployment in response to disasters in lower-income countries. The objectives of the study are two-  
120 fold. First, the research will demonstrate that centralized aid delivery frameworks could result in an  
121 “aid magnet” that contributes to disaster urbanization. Second, this study develops preliminary  
122 criteria for lower-income countries to receive aid based on existing local opportunities combined  
123 with socioeconomic, environmental, and ethical considerations surrounding that specific country.  
124 At this stage in the ongoing research, the concept of pre-planned, country-specific, and sustainable  
125 aid deployment assumes the label of decentralized humanitarian aid deployment (DHAD). Finally,  
126 the purpose of this study is not to assign blame. It is understood herein that humanitarian intentions

127 are, for the most part, good and that current aid delivery methodologies have good intentions. Any  
128 terms in this study that directly or indirectly connote culpability are intended to constructively  
129 criticize the beaten path of aid deployment and not those who courageously walk it.

### 130 **3. Methodology**

131 A focused, qualitative literature review of relevant work supports this study. The decision to  
132 pursue a qualitative framework supports the multisectoral nature of disaster management, many  
133 components of which commonly utilize qualitative analysis (Phillips, 1997). It is also common in  
134 the literature to use a focused review to establish a context to form the basis for a novel concept, a  
135 theoretical model, or future research (e.g., Cowan et al., 2005; Schober and Annis, 1996; Yilmaz  
136 and Youngreen, 2016). The direction of this research resembles a theory generated from the data,  
137 which, in this case, was derived from the focused literature review (Creswell and Creswell, 2018).  
138 The focused review built on itself by first reading approximately 190 abstracts and conclusions of  
139 potentially related articles. Articles that were deemed even “slightly relevant” or “likely relevant”  
140 were read completely for further assessment. Next, 26 core, peer-reviewed articles were retained  
141 for being significantly relevant to this topic. Finally, the 26 core articles expanded the list of  
142 citations in two ways. First, by using the core articles’ references to look backward in time for  
143 additional relevant sources and, second, by looking forward at articles that cited those core  
144 references. Three citations were added outside of this matrix to support the use of a focused  
145 literature review for this study. With four expert book author additions, this resulted in a total of 64  
146 citations (see Figure 1). Since there was limited research directly addressing aid “deployment” (i.e.,  
147 delivery), it became necessary to broaden the parameters to include some aid “distribution” models  
148 (i.e., resources already on the ground). The core literature was mostly responsible for creating the



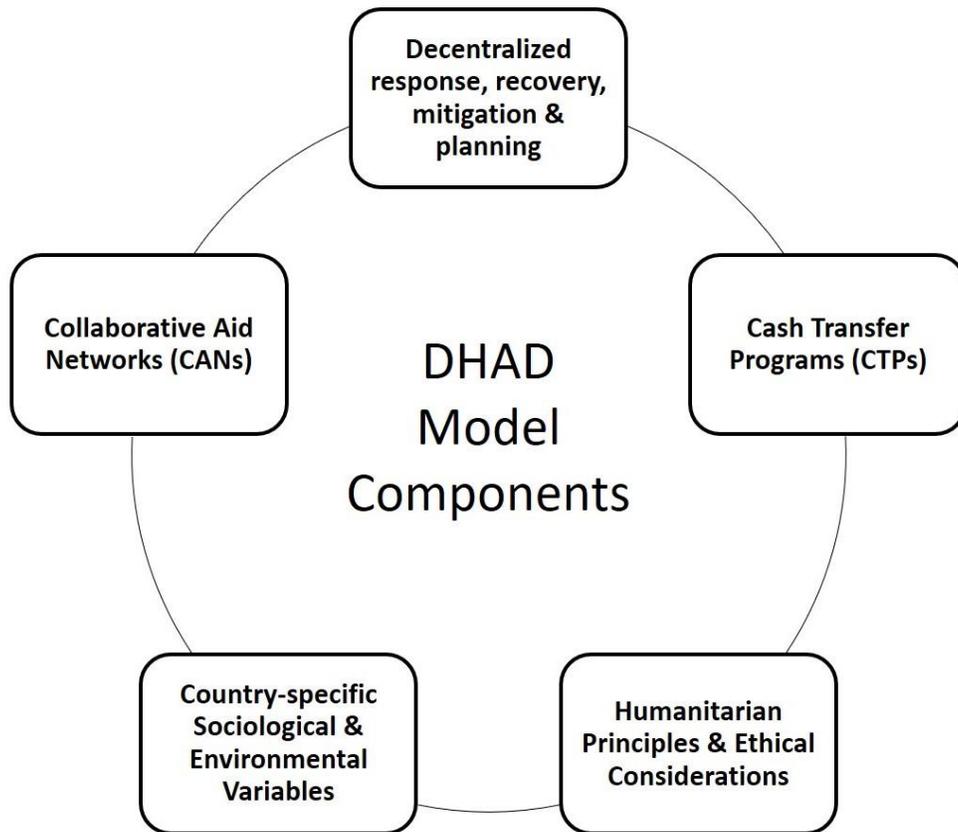
**Figure 1 – Methodology workflow for focused literature review**

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151 two parts of the central theme (see Purpose section) while also developing four supporting sub-  
 152 themes. These supporting themes were not preconceived. Instead, they presented themselves as  
 153 prevalent sub-topics within the 26 core articles. For example, a citation reviewing humanitarian  
 154 logistic structures would reference the need to use collaborative aid networks (CANs) or cash  
 155 transfer programs (CTPs) in the future. In this focused review, once more than two comprehensive  
 156 study citations referenced a factor like this, it was evaluated for relevancy opposite the central  
 157 theme. This thematic hierarchy ultimately defined the DHAD key components and the construct of  
 158 this study (see Figure 2). Initial keyword searches included the words humanitarian, logistics,  
 159 deployment, urbanization, supply chain, de/centralized, and migration alternated in various Boolean  
 160 arrangements but generally with the word humanitarian or the phrase humanitarian aid as the lead

161 search term. Examples of databases accessed through the Georgetown University library included  
 162 Academic Search Planner, ProQuest Central, and Emerald Intelligence. Google Scholar was  
 163 primarily used to dynamically investigate who cited core articles as each of them became part of the  
 164 project.



165  
 166 **Figure 2 – Components of Decentralized Humanitarian Aid Deployment (DHAD)**

167 **4. Focused Literature Review / Discussion**

168 **4.1 Decentralization**

169 The humanitarian aid industry receives criticism for not supporting locally driven, long-term  
 170 recovery, mitigation and future planning of the countries it seeks to help (Bealt and Mansouri, 2018;  
 171 Kunz and Reiner, 2012; Winthrop, 2010; Fengler and Kharas, 2010). Sovereign nations under  
 172 duress from a disaster must formally request help from the international community. “The process  
 173 of consent cannot be retroactive but must precede humanitarian action” (Slim, 2015). The next step

174 is the deployment of aid into that country. It is at this, often pressure-filled, juncture that the aid  
175 community must uphold the international humanitarian principles that govern their involvement.  
176 The literature will demonstrate that deploying aid into countries using one-dimensional foreign  
177 logistics models or frameworks based solely on cost efficiency (Anaya-Arenas et al., 2014) may  
178 represent a type of response to the immediate needs but fails to support the other three components  
179 to the disaster cycle: long-term recovery, mitigation, and future planning. This lack of substantive  
180 planning all but ensures that when the next disaster strikes the same country, it will meet an equal or  
181 greater state of aid-dependent vulnerability. This study further posits that the current centralized aid  
182 deployment practices contribute to “disaster urbanization” that immediately translate into greater  
183 urban vulnerability while weakening rural sectors of the countrywide economy. While most of the  
184 research cited will lay the foundation for the overarching themes of this study, critical analysis of  
185 some citations will occur to the same end. This central theme has two complementary components  
186 as follows. *Current centralized humanitarian aid deployment practices may encourage*  
187 *urbanization thereby weakening short and long-term resiliency of lower-income countries receiving*  
188 *aid. Introducing a new decentralized model would represent a sustainable aid deployment standard*  
189 *for that country’s specific response, recovery, mitigation, and planning opportunities and*  
190 *constraints.*

191 Aid deployment (and subsequent distribution) models that fail to account for specific  
192 socioeconomic and environmental factors of the impacted country have limited their chances for  
193 success before getting started. From the moment of deployment, foreign logistical supply chain  
194 templates do not look at local resources as an integral part of their effort. These models even boast  
195 of their country-agnostic capabilities which implies that any low-income population in need is  
196 incapable of meaningfully participating in their own recovery. Furthermore, if the model advocates  
197 for a single major point of resource distribution (like most do), this is considered only for its

198 efficiency within the model itself and not if the creation of a single “resource magnet” will  
199 contribute to disaster migration within the country being served. For example, Anaya-Arenas et al.  
200 (2014) discuss in detail the location and network design drawbacks accompanied by considerable  
201 routing problems within current aid deployment models but fail to use the word 'local' once. This  
202 symbolic omission is not a misstep on the researcher’s part but an accurate summation of foreign-  
203 based logistical aid models that lack meaningful incorporation of local assets in their processes.  
204 Anaya-Arenas et al. (2014) also demonstrate the absence of long-term resilience constructs or the  
205 effects of population stability in their review. Balcik et al. (2010) recommend two “low cost”  
206 distribution models both of which refer to a closed, foreign-only supply chain mechanism. This  
207 type of cut and paste, exclusive approach is a result of paternalistic mission statements that prevent  
208 locals from, at a minimum, sharing a lead role in their recovery. Jaller and Holguín-Veras (2012)  
209 advocate for the aid magnet model by praising the US National Response Plan “where at the top  
210 large flows of cargo are moved by a relatively small number of very large distributions centers.”  
211 The only reference in this study to locals is the assignment of blame for supply chain inefficiency.  
212 There is no mention of how any local population is expected to systematically participate in a  
213 foreign logistical framework but Jaller and Holguín-Veras (2012) ultimately concede that local  
214 engagement merits further exploration. Other comprehensive literature reviews find relatively little  
215 attention to supply chain management in the humanitarian context. “The field of supply chain  
216 management has been researched in depth by various studies, while its humanitarian aspects have  
217 been exhaustively discussed by only a handful of researchers” (Behl and Dutta, 2018). Other peer-  
218 reviewed works go as far as suggesting that current foreign aid frameworks should abandon any  
219 notion of contributing to long-term development and sustainability as they are currently doing more  
220 harm than good (Audet, 2015). “If emergency relief and development assistance still exist in two  
221 different operational realms today, it is because there are ever-growing obstacles to constructing a

222 smooth and logical transition between their specific phases” (Audet, 2015). These barriers between  
223 phases of the disaster cycle ensure that local capacity revolves around an ongoing aid-based  
224 response phase with little hope of the impacted nation propelling itself into a more autonomous  
225 mitigation and planning opportunity.

226         The Sendai Framework for Disaster Risk Reduction 2015–2030 offers international guiding  
227 principles to improve resiliency through better risk awareness, planning, and mitigation with an  
228 emphasis on the impacted nation taking a lead role in their response, recovery, and rebuilding. “It is  
229 necessary to empower local authorities and local communities to reduce disaster risk, including  
230 through resources, incentives and decision-making responsibilities” (UNISDR, 2015). The Sendai  
231 Framework also calls for academic research of emerging disaster risks that emphasize regional and  
232 local applications (UNISDR, 2015). Winthrop (2010) suggests a common model or language is  
233 needed to drive both local and international aid with more resources focused on disaster  
234 preparedness. This position acknowledges the cyclical nature of disaster management and that any  
235 response model, for better or worse, is also a referendum on recovery, mitigation, and planning.  
236 Fengler and Kharas (2010) discuss a coordinated decentralized effort and a need to move away from  
237 traditional aid frameworks that “have no inherent incentive to coordinate or share information.  
238 Their primary focus is to show tangible results for their specific investments in order to  
239 communicate back to their stakeholders.” Joaquin (2012) argued that decentralization could lead to  
240 the inequitable distribution of resources but this study is referencing the decentralization of NGO  
241 mandates and not how aid is deployed into a country. Joaquin (2012) supports the idea of multiple  
242 NGOs and outside organizations operating under a single sovereign governance that bases aid  
243 deployment on a country-specific framework as a means of unifying foreign response.

244         A chance for a better life, economic opportunity, or safety fuels rapid urbanization. But this  
245 migration toward urban centers can put a sustained strain on existing physical and social

246 infrastructure. The world population of 7.3 billion is projected to be 9.7 billion by 2050, with only  
247 nine countries (Ethiopia, Pakistan, India, Nigeria, the Democratic Republic of the Congo, United  
248 Republic of Tanzania, United States of America, Indonesia and Uganda) accounting for 50% of this  
249 increase (UN, 2015). If current wealth per capita trends remain constant, the world will be  
250 wealthier in 2050. But if this trend is unaltered, gaps in wealth will likely grow larger between the  
251 lower-income countries in Africa and Latin America and the higher-income countries, like the  
252 United States and in Europe (Kohlhase, 2013). Common vulnerabilities associated with the state of  
253 being poor include lower quality (less resilient) housing, lack of transportation options, more  
254 vulnerability to loss of employment after a disaster, and less ability to navigate post-disaster relief  
255 bureaucracies (Tierney, 2006). Whatever the subconstructs of vulnerability include, the overriding  
256 factor is poverty (Manyena et al., 2011). “The likelihood that natural hazards will turn disastrous is  
257 much greater in poorer countries. Low-income settlements are often the most vulnerable” (Julca,  
258 2012). Heightened vulnerability to natural disasters and terrorism are among the more obvious  
259 effects of rapid or unplanned urbanization but losing strong connections to rural support sectors  
260 could be one of the most significant consequences for urban centers (Kohlhase, 2013). Decreasing  
261 a low-income country’s rural food production potential by encouraging disaster urbanization can  
262 mark the beginning of that country’s long-term dependency on foreign aid and assistance. The  
263 literature ubiquitously views disasters as tragic opportunities to improve the impacted area. Yet  
264 without opportunity to lead the recovery, mitigation, and planning phases, the local population will  
265 continue to live at subsistence or high poverty levels, justifying an ongoing response-centric silo of  
266 aid.

267         The 1980s found two scholarly articles that directly support the DHAD concept. Belcher  
268 and Bates (1983) analyzed the Guatemalan earthquake of 1976 and the impact of Hurricane David  
269 in the Dominican Republic of 1979. Their research showed plainly that countrywide socio-

270 economic factors played a vital role in the decision of a disaster migrant to become a permanent  
271 urban dweller regardless of whether the event had directly impacted that individual. “The almost  
272 inescapable conclusion must be drawn that the migration was produced by economic opportunity  
273 created by the earthquake and not by economic loss. In an underdeveloped, poor rural community,  
274 people often have little to lose in such an event. They are so poor already that a disaster makes little  
275 difference, except that it offers employment opportunity and sometimes opportunity to benefit from  
276 the aid which pours in from outside” (Belcher and Bates, 1983). This study defines “disaster  
277 migration” and concludes that central refugee centers prompted an influx of permanent disaster  
278 migrants to urban centers from rural areas. Next, several texts recognize Anderson (1985) as a  
279 landmark article about the need to improve the relationship between humanitarian aid and long-term  
280 development. With the visual aid of a Mobius strip representing the cyclical relationship between  
281 response, recovery, and mitigation, Anderson (1985) asserted that seeing disasters as a failure of  
282 development is essential. Therefore development was the process of improving resiliency opposite  
283 future disasters. “The challenge before us is to face the role that vulnerability plays and devise  
284 essentially new approaches to disaster relief and development that anticipate vulnerabilities before  
285 crises become disasters” (Anderson, 1985). Both Belcher and Bates (1983) and Anderson (1985)  
286 mark the beginning of a drought of scholarly contributions on this topic. In 2012, Kunz and Reiner  
287 conducted a literature review using both qualitative and quantitative methods and found that “there  
288 is a scarcity of research related to ongoing aid operations, slow-onset disasters, and human-made  
289 catastrophes. Regarding the distribution of literature onto the phases of a disaster, it was concluded  
290 that very little attention is being paid to reconstruction.” This study provides support to the central  
291 theme and supporting sub-themes within this article by mentioning the need to analyze and include  
292 social and environmental factors related to the reconstruction phase.

293 Foreign aid deployment and distribution templates tend to be focused on their own supply  
294 chain efficiencies, failing to account for longer-term impacts, like disaster urbanization, within that  
295 specific country. Anaya-Arenas et al. (2014) reviewed several thousand articles, ultimately  
296 focusing on a few hundred articles centered around aid supply chains deployed immediately after  
297 disasters struck. This study concluded that monothematic aid models were “mainly static and seek  
298 to optimize a single objective (either cost minimization, covering maximization in distance or  
299 quantity or rapidity) and this, during a single period” (Anaya-Arenas et al., 2014). This same study  
300 found systemic flaws with areas chosen for resource staging after the disaster hot zone is  
301 determined. This is largely a result of considering logistical, environmental, and economic  
302 opportunities and constraints under duress after a crisis has already occurred. Next, Parker and  
303 Maynard (2015) conducted a literature review and interviews with practitioners to assess area-based  
304 deployment of aid opposite the context of rapid urbanization. “The participatory, multi-sector  
305 nature of area-based approaches requires a skill set that may differ from traditional ‘delivery’  
306 focused humanitarian assistance; this requires further investigation” (Parker and Maynard, 2015).  
307 Two other relevant conclusions from this study strongly support the theory put forth by this paper.  
308 First, this research recommends the inclusion of local governments from the moment of deployment  
309 with transparency and accountability guiding the relationship. And second, the study proposes  
310 linking the deployment and distribution of all aid to existing regional planning policies (Parker and  
311 Maynard, 2015). Finally, the Inter-Agency Standing Committee (IASC) (2010) concluded that  
312 rapid urbanization and the reduction in rural populations demanded a “paradigm shift” in  
313 humanitarian aid models toward the use of local and community-based partnerships. They  
314 concluded that these partnerships delivered aid more efficiently and transparently while possessing  
315 “parallel responsibilities in development sectors to sustain relief investments in disaster risk

316 management, early recovery, and reconstruction” (IASC, 2010). This is direct testimony to the  
317 untapped potential that the response phase has relative to recovery, mitigation, and planning.

318 In the Haiti earthquake response of 2010, aid workers experienced the aid magnet  
319 phenomenon first hand. They could not distinguish the state of need between those directly  
320 impacted by the quake and those who were attracted from outlying areas to the centralized aid  
321 deployment near Port-au-Prince because of their existing high states of vulnerability (Durocher et  
322 al., 2016). This magnetic connection between centralized aid infusion and disaster migration needs  
323 to be presented as highly plausible. Since there is minimal, direct research on this supporting point,  
324 it will not be a goal to prove this explicitly. Durocher et al. (2016) also noted a concerted effort by  
325 foreign NGO’s to work in a vacuum and recommends replacing these highly reactive interventions  
326 with more deliberate and planned mechanisms. “Circumventing local structures may have led to  
327 greater short-term efficiency but participants, both Haitian and expatriate, saw this approach as a  
328 missed opportunity to reduce future vulnerabilities” (Durocher et al., 2016). NGOs made many  
329 promises after this disaster to improve local participation but the inequity created by a history of  
330 resource centralization was not supported by any change in their governing policies (Hsu and  
331 Schuller, 2019). “The presence of NGOs throughout history has reinforced centralization, it was  
332 particularly true after the post-quake influx” (Hsu and Schuller, 2019). Implementing a foreign  
333 supply chain on the fly during a crisis ensures that the initial response will not contribute to  
334 increased resiliency in the future. However, the criticism of the current centralized model does not  
335 necessarily extend to the UNOCHA cluster framework for aid sectors on the ground. This model  
336 promotes the clear coordination of eleven sectors like food security, shelter, and protection. Cluster  
337 principles could be incorporated into the DHAD model by, for example, creating a network of  
338 smaller clusters instead of one or two massive ones. A countrywide network would coordinate as  
339 one but possess the agility to respond to the needs and opportunities at its specific location. The

340 diversity and agility of this concept would discourage disaster migration and immediately support  
341 the recovery of all the impacted country's economic sectors. This supports the concept of treating  
342 the whole patient that has suffered an injury instead of treating only the wound. Stumpenhorst et al.  
343 (2011) do criticize the UN cluster model for its lack of consideration for long-term recovery and a  
344 systemic need to improve communications among actors. "A long-term planning perspective needs  
345 to be included in the early planning of emergency relief efforts. NGOs need to convince their  
346 donors to agree to basket funding of relief activities and to assign at least part of the donations for  
347 long-term re-development rather than short-term aid" (Stumpenhorst et al., 2011). It is not  
348 warranted, however, to consider these criticisms intrinsic to the cluster mechanism but more of a  
349 statement about the larger aid ecosystem in which the cluster model resides.

350         The United States, a higher-income, modernized country, still has more than 95% of its land  
351 classified as rural but that vast area is home to only 19% of its population (Hales et al., 2014). A  
352 foundation of the decentralized approach to aid deployment into lower-income countries is the  
353 belief that cities (also defined as a concentration of resources) cannot survive without support from  
354 rural economic sectors like agriculture, mining, tourism, and forestry (Hales et al., 2014). These  
355 lower-income, rural populations typically face physical isolation, limited economic diversity and  
356 high poverty rates (Hales et al., 2014). The vulnerability level of rural communities can directly  
357 affect countrywide or even global considerations like the extent of deforestation, and sediment and  
358 pollution levels in waterways. In Haiti, for example, a historically marginalized rural population  
359 unsustainably harvested all species of trees for cooking fuel which led to massive deforestation. By  
360 2010, less than three percent of Haiti's forest cover remained (DesRoches et al., 2011). Population  
361 stability is recognized as an essential component of a resilient society while rapid changes in  
362 population can adversely affect preparation and mitigation (Cutter et al., 2014). "A massive influx

363 of population can overwhelm existing infrastructures” (Cutter et al., 2014). Cutter et al. (2014) also  
364 cite environmental variables, like agricultural resiliency, as a factor in regional recovery.

365         Aid camps lose 60% of internally displaced persons (IDP’s) and 80% of refugees to the  
366 attraction from city centers (Park, 2016). Poorer countries, where the last 40 years have seen a  
367 326% increase in their urban populations, will not be able to develop adequate buildings and  
368 infrastructure to adapt to the present rate of urbanization. Forecasts predict that by the year 2050  
369 more than 70% of the global population will reside in urban areas (Park, 2016). More than a billion  
370 men, women, and children occupy permanent slums worldwide. This growing population is  
371 “largely made up of people with low education and limited financial means. They therefore usually  
372 have no other option than to live in informal settlements, characterized by a lack of basic  
373 infrastructure and absence of services” (Duijsens, 2010). It is important to note that the low  
374 education reference by Duijsens (2010) is not synonymous with a lack of skills. Many of these  
375 people have rural skill sets, like farming or fishing, that do not readily transfer to an urban setting.  
376 Despite a general agreement that rapid and unplanned urbanization directly contributes to increased  
377 vulnerability, “there is little consensus or convergence within the humanitarian community on what  
378 constitutes clear best practice, in part because of the need to consider urban slums, peri-urban areas,  
379 degree of functioning governance and baseline economic profiles among other variables” (The  
380 Sphere Project, 2015). A critical connection to creating a best practice in this context lies with the  
381 creation of a new aid deployment model that puts the local population in maximum control of their  
382 recovery. “One key area that can help bridge the humanitarian development divide is greater  
383 engagement with municipal authorities. Moving beyond simply informing local governance actors  
384 of their plans, and getting consent, responders to humanitarian crises should, where possible, be  
385 striving to find more substantive ways to engage” (Earle, 2017). Bealt et al. (2016) determined that  
386 concentrated efforts to include local communities in the planning and implementation of aid

387 deployment “will help save the lives of vulnerable populations post-disaster.” Holguín-Veras et al.  
388 (2012) determined that locals can exploit existing social networks to create efficient, locally  
389 managed deployment of aid that exceeds the performance of foreign models that must start from  
390 scratch under duress. Kunz and Reiner (2012) point to a glaring lack of research in the  
391 development or reconstruction phase while noting the need to incorporate local assets in future  
392 studies as a means to improve overall deployment and ultimately distribution potential. Manyena  
393 (2016) uses the Sendai Framework as a basis for their quantitative and qualitative research,  
394 concluding that local resources and local investment are the appropriate mechanisms to address  
395 disasters that are defined by both external and internal country factors. This position is common in  
396 the literature (Bealt et al., 2016; Holguín-Veras et al., 2012; Kunz and Reiner, 2012; Manyena,  
397 2016) but that recurrent finding demonstrates the ongoing lack of connection in the field to local  
398 empowerment and to that first step that comes after a sovereign nation asks for help - deployment.  
399 A decentralized model (DHAD) of aid deployment answers the call for best practices by addressing  
400 all four components of the disaster cycle with local assets assuming a lead role in a national  
401 recovery.

#### 402 **4.2 Existing Local Networks**

403 A single-minded mechanism whose sole interest is achieving efficiency in the deployment  
404 of goods without looking at the multisectoral implications, locally driven possibilities, or long-term  
405 suitability, is destined only to be relevant to the short-term response phase. Jaller and Holguín-  
406 Veras (2012) refer to locals in the sole context of “the impacts of manpower restrictions.” The term  
407 manpower carries with it a low level, rudimentary, and non-decision making connotation. This  
408 study acknowledges that the Sphere Project standards suggest that distribution (implying  
409 deployment as well) may need to address the capacity and convenience of the impacted nation and  
410 not the convenience of logistics models (Jaller and Holguín-Veras, 2012). However, without the

411 meaningful, top-level inclusion of local assets, it is difficult to see how the convenience of logistics  
412 models is not still the primary objective. The study by de la Torre et al. (2012) interviewed 32  
413 representatives from NGOs and reviewed relevant literature, but still largely saw local resources as  
414 a limitation. “Monitoring a population to understand its needs and developing relationships with  
415 local leaders to ensure orderly and fair distribution takes significant resources” (de la Torre et al.,  
416 2012). However, the same study did recognize a need for more flexible and agile aid delivery and  
417 deployment mechanisms. Balcik et al. (2010) conducted a literature review of commercial supply  
418 chain management and humanitarian supply chain management to see what crossover concepts and  
419 frameworks were applicable. Here again, aid actors attempt to take logistical concepts that work  
420 well in a vacuum, or another country, and try to apply them to an unknown disaster setting. The  
421 results from Balcik et al. (2010) do not recommend a framework that seeks to engage or empower  
422 local residents while the phrase “collaborative procurement” in this study refers to collaboration  
423 exclusively among NGOs. Bealt et al. (2016) conducted a qualitative and quantitative  
424 methodological study including a comprehensive literature review and an online survey. The goal  
425 was to uncover barriers to better cooperation between humanitarian operations and local assets. The  
426 findings revealed that, while the top-level decision making of aid delivery excludes local  
427 participants, the key to saving more lives in the future is improved relationships between foreign aid  
428 operations and local service providers (Bealt et al., 2016). Notable in Bealt et al. (2016) is that the  
429 majority of tasks (over 80%) asked of local service providers were labor, transport, or other  
430 rudimentary or repetitive work. Research conducted by Holguín-Veras et al. (2012) concluded that  
431 aid operation inefficiencies were attributable to a lack of connectivity with the local logistic  
432 networks. “Integration with a local network enables the foreign relief group to take advantage of  
433 the local knowhow and the human and technical resources of the local partner, as well as the  
434 legitimacy that the local network may have with the population” (Holguín-Veras et al., 2012).

435 These local collaborative aid networks (CAN's) could mobilize their forces in a fraction of the time  
436 it would take to essentially build it from scratch (Holguín-Veras et al., 2012). "The local capacity  
437 principle combines the autonomy and self-determination of political ethics with the principle of  
438 grassroots effectiveness and sustainability in community development ethics" (Slim, 2015). Bealt  
439 and Mansouri (2018) conducted a systematic literature review and found that impacted communities  
440 are able to quickly form ad hoc CANs whose logistical capabilities outperform humanitarian  
441 organizations. "Highlighting these collaborative partnerships draws attention to the wealth of  
442 knowledge and the vast pool of skills already in existence within communities, and the breadth of  
443 resources that could be harnessed through collaborative partnerships between CANs and the  
444 humanitarian community" (Bealt and Mansouri, 2018). This is a common foundation between  
445 CANs and the proposed DHAD model, and why the existing CAN mechanism strongly supports the  
446 potential of the DHAD concept. Based on these findings, the first sub-theme of this study has  
447 revealed itself: *CANs directly support DHAD*. These existing networks embody the local potential  
448 that the DHAD model advocates for nationally. CANs are the potential that FEMA's "whole-  
449 community" promotes in the United States disaster management best practices. Encouraging a local  
450 matrix to take a lead role is a declaration that the impacted city or region can do more than provide  
451 "manpower." The DHAD model is an aggregation of all those voices saying that, as a country, we  
452 can do more to participate in our own recovery.

### 453 **4.3 Cash Supporting Sovereignty**

454 While there has been a recent surge in the popularity of Cash Transfer Programs (CTPs), the  
455 concept has existed since the late 19th century. The realization, then and now, is that CTPs allow  
456 individuals in need to participate in their own recovery and immediately reduce their vulnerability  
457 while stimulating the local economy. Today, however, there is more proof that it works as part of  
458 the modern aid ecosystem. "Evidence is mounting that CTPs can address the multi-dimensional

459 causes of poverty and vulnerability in a cost-effective way” (Thompson, 2014). CTPs align aid  
460 with what people need at that moment instead of what NGOs are mandated and equipped to  
461 dispense. “Local markets have responded to cash injections without causing inflation and it has  
462 generated positive impacts on local economies. With the growth of digital payments systems, cash  
463 can be delivered in increasingly affordable, secure and transparent ways” (ODI, 2015). Therefore,  
464 this second sub-theme posits that *CTPs directly support DHAD*. The CTP mechanism encourages  
465 every donor dollar to not only be in response to an immediate need but also a step toward recovery  
466 and longer-term resiliency. If current aid practices are analogous to a foreign, external life support  
467 machine for a patient that is presumed dead without it, then CTPs are an alternative system that  
468 allows the patient’s own body to heal itself with some localized help. In theory, this results in more  
469 long-term resiliency for the impacted population and directly aligns with the principles of DHAD.

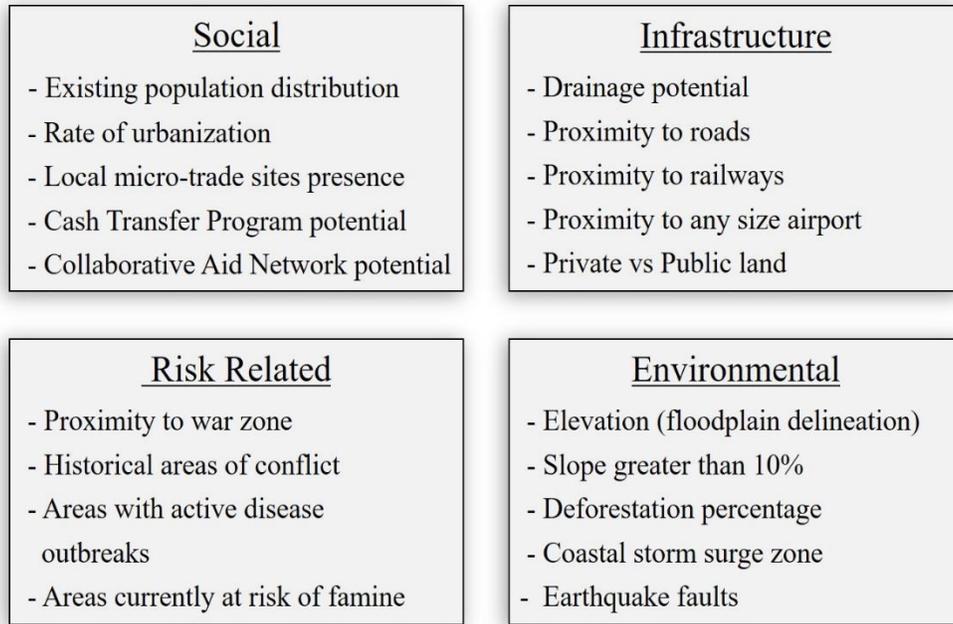
470         The protracted Syrian war has seen more than 500,000 lives lost and is presently responsible  
471 for over 6.2 million internally displaced persons (IDPs) (ACAPS, 2018). This has been one of the  
472 most successful CTP settings in recent years (CaLP, 2018; ICRC 2017; UNHCR 2017). CTPs can  
473 be used in preparation, response, recovery, and mitigation phases while emphasizing localization.  
474 These cash transfers are agile and cut across several need sectors in real time (ICRC, 2017). In  
475 Jordan in 2016, improved monitoring and evaluation revealed that 64% of Syrian refugees felt that  
476 CTPs had a positive effect on their well-being and recovery (UNHCR, 2017). “The substantial  
477 benefits associated with using cash include: driving efficiencies and innovation in the delivery of  
478 aid, increasing the effective use of limited aid dollars in achieving outcomes, enhancing the dignity  
479 and choice of beneficiaries, improving the traceability of how aid funds are used and stimulating  
480 crisis-struck economies from the bottom up” (CaLP, 2018). In 2016, the Grand Bargain, a set of  
481 international donor guidelines, noted the efficacy of cash in empowering the impacted population  
482 while stating that this mechanism is underutilized (IOM, 2016). Another international set of

483 standards for donors, Good Humanitarian Donorship, calls for the immediate and more widespread  
484 consideration of CTPs. Its latest guiding principle, listed as a modality of humanitarian assistance,  
485 asks donors to “systematically consider the use of cash transfers alongside other modalities  
486 according to context, in order to meet the humanitarian needs of people in the most effective and  
487 efficient manner” (GHD, 2016). Like CANs, CTPs promote multisectoral and locally empowered  
488 recovery, and both could become more potent under the umbrella of a country-specific,  
489 decentralized, deployment foundation like the DHAD model. DHAD would take the momentum  
490 from these programs and ensure that locally driven response and short-term recovery translates  
491 efficiently into long-term recovery, mitigation, and planning. This would quiet criticism that  
492 accompanies traditional, centralized aid camps that are said to be good for the repeat business of aid  
493 while turning a blind eye toward future resilience and autonomy (Slim, 2015). Within the DHAD  
494 model, a CTP donor dollar for response would also be a dollar toward future resiliency.

#### 495 **4.4 Country-Specific Variability**

496 Lower-income countries need to remake disaster response in their own image. Each  
497 vulnerable nation in Africa, for example, has different needs and quantifying those country-specific  
498 variables is a crucial step in replacing foreign response templates with a response plan native to that  
499 sovereign nation. “African countries need to invest in research to develop an enhanced  
500 understanding on the concepts involved in ‘disaster,’ including the meanings of terminologies such  
501 as risk, vulnerability, and resilience that are consistent with African languages, traditions, and  
502 cultures” (Manyena, 2016). A means to measure the specific vulnerabilities of an area is available  
503 in the form of vulnerability indexes (Frazier et al., 2013). “Recognizing the uneven distribution of  
504 socioeconomic factors and how they intersect with physical hazards is important for effective  
505 community-level hazard mitigation and efficient allocation of limited resources” (Frazier et al.,  
506 2013). These first two literary contributions help define the third sub-theme as *socioeconomic and*

507 *environmental variables should form DHAD criteria.* Rashid (2018) developed a multiple-criteria,  
508 weighted model to analyze migration within Malaysia's Klang Valley Region. Understanding the  
509 many factors or tipping points that makes up migration decision selectivity is a key to understanding  
510 which areas are likely to lose or gain people in the future (Rashid, 2018). This study utilized GIS  
511 modeling tools to layer the data from seven variables and produce zones on a map with high to low  
512 migration potential. These variables included affordable housing areas, new residential areas, areas  
513 with an acceptable cost of living, areas which are near a place of work, areas with good physical  
514 and environmental features, areas with good social and community living, and areas with good  
515 housing potential. While this index may not be directly transferable to a DHAD country-specific  
516 model, the process is similar to how DHAD criteria could produce a network of decentralized but  
517 socially and environmentally sustainable aid deployment sites across a country. Ideally, this  
518 planning mechanism features local stakeholders at the helm. Next, Cetinkaya et al., (2016)  
519 examined an area along the Turkish border to determine the highest suitability to locate Syrian  
520 refugee camps. The nineteen weighted variables from this study had four main criteria categories as  
521 follows: geographical (e.g., proximity to wind), risk related (e.g., earthquake), infrastructure (e.g.,  
522 proximity to a roadway), and social criteria (e.g., proximity to local population). "Finding a  
523 suitable site for a refugee camp requires a multi-criteria approach and high levels of accuracy and  
524 reliability in the resulting maps, in order to be relevant for decision making and the design of  
525 humanitarian plans" (Cetinkaya et al., 2016). There is little doubt that this level of analysis and  
526 synthesis would improve current aid deployment practices and set them up for long-term success  
527 after addressing immediate response needs. Therefore, it is critical that these types of vulnerability  
528 indexes guide DHAD implementation. From these studies, an example of the DHAD criteria can  
529 begin to take shape (see Figure 3).



530

531 **Figure 3: Preliminary, non-specific country example of sub-indexes and variables for DHAD criteria**

532 Two decades ago, Morrow (1999) noted that “emergency planners, policy-makers and  
 533 responding organisations are encouraged to identify and locate high-risk sectors on Community  
 534 Vulnerability Maps” (Morrow, 1999). This type of planning tool defines itself as one of the ways  
 535 that one dollar spent in the planning phase of the disaster cycle can save six dollars in response  
 536 (NIBS, 2018). There are two other vital findings from Morrow (1999) relevant to DHAD  
 537 implementation. First, identification of pre-disaster vulnerabilities in a population is not  
 538 synonymous with helplessness or lack of agency. And second, planners who “make full use” of  
 539 local residents will increase the chances of that community’s survival (Morrow, 1999). This infers  
 540 that the greater good, or highest short and long-term survival rate, can be supported by this type of  
 541 pre-disaster community vulnerability mapping. Cutter et al. (2010) identified five components of  
 542 disaster resilience applicable to weighted evaluation and geospatial analysis. These include social  
 543 resilience, economic resilience, institutional resilience, infrastructure resilience, and community  
 544 capital (Cutter et al., 2010). “One approach to developing spatial indexes for vulnerability and risk

545 with GIS is based on a site selection technique. This is the idea of answering a question by  
546 overlaying and comparing a variety of spatial variables to create a final index score or match site  
547 selection criteria” (Tomaszewski, 2014). This kind of resilience mapping based on a variety of  
548 environmental and non-environmental factors in a lower income country has the potential to move  
549 DHAD from conceptual to actionable in any phase of the disaster cycle. Identifying multiple  
550 locations in a country suitable for aid deployment based on country-specific, weighted variables is a  
551 gateway to more sustainable aid deployment. Analysis of a country might produce twenty viable  
552 sites within that nation’s aid deployment network. If a disaster heavily impacts four of those  
553 locations, then a network of sixteen sites remain to band together, receive aid, and attempt to heal as  
554 one body - as a nation. Once the disaster has passed and the long-term recovery phase has begun,  
555 the same mapping interface can be used to rebuild more sustainably - avoiding things like  
556 earthquake fault lines and floodplains when rebuilding roads, schools, or hospitals. No matter the  
557 pace or level of rebuilding that a lower-income country can afford, a disaster can lead to greater  
558 resiliency with a national vulnerability DHAD map guiding the next steps.

#### 559 **4.5 The Ethics of Deployment**

560 Thinking of a lower income nation in distress as a sovereign entity is a key tenet of this final  
561 sub-theme and, indeed, of this study. No matter level of income, a sovereign nation must be  
562 regarded as having the capability of taking an active role in their disaster management cycle. A  
563 natural reaction to seeing someone in obvious need (e.g., a person in a wheelchair blocked by fallen  
564 debris) is to unquestioningly rally support and jump in (Manley and Kim, 2012). A decent and  
565 timely response by the international aid community still guides our global hearts in the direction of  
566 the greatest need. That said, deployment, in any capacity, into a sovereign nation requires more  
567 guidance than our hearts can give. We must look at historical international guidelines and ethical  
568 considerations to consistently and equitably govern the global response to crises. This leads us to

569 the last sub-theme: *international guidelines and ethical considerations must form the basis for aid*  
570 *deployment into any nation*. The four international humanitarian guiding principles contribute to  
571 the foundation that legitimizes the DHAD process. Two of these principles (humanity and  
572 impartiality) are most relevant to this discussion. In part, *humanity* states that “the purpose of  
573 humanitarian action is to protect life and health” while *impartiality* asserts that “humanitarian action  
574 must be carried out on the basis of need alone” (UNOCHA, 2012). This paper submits that both of  
575 these principles were not intended for consumption within 30 days of a disaster but that there is no  
576 dimension of time that qualifies their intent. In 1991, a UN resolution proclaimed that “disaster-  
577 prone countries should develop special emergency procedures to expedite the rapid procurement  
578 and deployment of equipment and relief supplies” (UN, 1991). This 28-year-old sentence is the  
579 embodiment of the DHAD framework where all countries take a lead role in planning for the next  
580 disaster. No matter the present state of vulnerability, this type of planning overlay can increase the  
581 state of readiness and resiliency of any group (Manley and Kim, 2012; Cutter et al., 2010). The  
582 international Red Cross Code of Conduct supports this idea of intrinsic capabilities within a  
583 vulnerable population. “The ICRC recognizes that disaster management is only successful when  
584 the recipients are fully involved in the design, management, and implementation of aid programs”  
585 (Geale, 2012). A request to enter a sovereign nation symbolizes respect for the unique cultural  
586 capabilities, social mores, and habits of all impacted communities. “The process of consent cannot  
587 be retroactive but must precede humanitarian action” (Slim, 2015). This is the moment - and not a  
588 moment later - when an impacted nation must set forth its guidelines for receiving aid that contains  
589 its unique and indigenous vision for deployment, distribution, and long-term development. Without  
590 this dictum, the aid community will continue to follow its heart toward a response-centric and  
591 centralized deployment driven by foreign logistics models.

592           The Grand Bargain’s donor guidelines outlined in 2016 acknowledged “that faced with the  
593 reality of our woefully under resourced humanitarian response, the status quo is no longer an option.  
594 This requires us to innovate, collaborate and adapt mind-sets” (IOM, 2016). The second tenet of  
595 this document specifically calls for more support of locally driven programs and this theme is  
596 reiterated consistently throughout the Grand Bargain. The Good Humanitarian Donorship (GHD)  
597 guidelines also emphasize strengthening the impacted nation’s role through local planning,  
598 mitigation, and response (GHD, 2016). One suggestion for achieving this is through the reduction  
599 in donor earmarks, allowing for greater flexibility based on the needs on the ground as determined  
600 by local stakeholders. As it relates to urbanization, the ninth principle of the GHD states that  
601 humanitarian aid must be “supportive of recovery and long-term development, striving to ensure  
602 support, where appropriate, to the maintenance and return of sustainable livelihoods and transitions  
603 from humanitarian relief to recovery and development activities” (GHD, 2016). This direct  
604 connection between response, recovery, mitigation, and then future planning activities is at the core  
605 of the DHAD construct.

606           A logistics model that met with success in another, likely higher-income, country does not  
607 automatically qualify it for use delivering disaster aid. Revisiting the historical basis of  
608 humanitarian ethics is a critical mirror to hold up to new or existing aid deployment frameworks. A  
609 disaster that strikes a sovereign nation impacts that entire nation - not merely where one can observe  
610 fallen buildings, overturned boats, or media portrayals of the dead. The principle of distributive  
611 justice offers that “preparedness should ensure that the benefits and burdens imposed on a  
612 population by an emergency and the need to cope with its effects are shared uniformly and fairly”  
613 (AHCA, n.d.). Planning activities intent on minimizing death and injury must consider the concept  
614 of distributive justice (AHCA, n.d.). How will rural populations be affected by an earthquake at a  
615 city center 100 miles away? What capabilities do these rural populations have and how can they

616 help without increasing their current state of vulnerability? The fair deployment of foreign aid  
617 dictates that goods and services provided are sustainable once the aid worker goes home. Medical  
618 treatments, for example, that are not locally available may help a single patient during a crisis but  
619 should be used judiciously as they may ostracize local responders and scuttle long-term community  
620 resiliency (Asgary and Junck, 2013). This adds a layer of complexity to that heartfelt, assumptive-  
621 based aid reaction (helping that person in a wheelchair) discussed earlier. Professional training may  
622 have instilled a sense of duty to a responder that interprets the Do No Harm principle as treating and  
623 reducing harm in the moment by any means. This, however, generally results in a reduction to the  
624 overall benefit (AHCA, n.d.). Therefore the principle of utilitarianism is arguably a more suitable  
625 ethical foundation for the humanitarian disaster cycle. This principle claims “that the ultimate good  
626 is always the greatest happiness of the greatest number of sentient beings, whereby everyone,  
627 including the moral agent, counts for one unit and no one counts for more than one” (Zack, 2006).

628         Medical doctor and professor of international health, Hans Rosling, labeled this paradox of  
629 serving the greater, long-term good as the cruel calculus that accompanies poverty (Rosling and  
630 Rosling, 2018). When faced with the choice of treating only those children who came to a central  
631 hospital in Mozambique or going out into more remote areas to train local health workers in basic  
632 community healthcare, Rosling knew he could do more good by teaching locals about how to treat  
633 diarrhea, pneumonia, or malaria before they became lethal. He surmised that by staying in the  
634 central hospital, he was making less than two percent of the impact he could have elsewhere  
635 (Rosling and Rosling, 2018). This might mean that without Rosling on-call in the hospital, a baby  
636 at that facility would die that he could have saved. “It felt almost inhuman to look away from an  
637 individual dying child in front of me and towards hundreds of anonymous dying children I could  
638 not see” explains Rosling (Rosling and Rosling, 2018). But the principle of utilitarianism allows  
639 one to look at all the babies in that region that would die today, tomorrow, and next year (Geale,

640 2012). Rosling concluded that empowering locals would save more lives over time. The IFRC  
641 Code of Conduct (1994) supports the criteria for aggregate benefit over time. “All relief actions  
642 affect the prospects for long-term development, either in a positive or a negative fashion” (IFRC,  
643 1994). Strictly interpreted, this notion supports the DHAD tenet that a single bag of rice, a bottle of  
644 water, or medication delivered today must be part of a long-term, country-specific vision that  
645 provides the greatest good to the greatest number of people.

646         While utilitarianism influence on humanitarian ethics is subjective, guiding documents like  
647 the Sendai Framework, international donor guidelines, and the IFRC Code of Conduct appear to  
648 support this governing ideal. In practice, however, aid actors must embrace some ethical foundation  
649 that leads to an agreed upon state in which it is acceptable to leave the impacted population. The  
650 current top-down aid deployment framework receives criticism for being “the kind of aid that tends  
651 to be delivered paternalistically and soon sees people back in their original state of powerlessness,  
652 vulnerability and risk” (Slim, 2015). John Rawls argued that equality takes place fairly as long as  
653 those who are not as well off, are not left in a state that is worse than before the disaster struck.  
654 “Rawls does not believe that government need make provision for equality of distribution, provided  
655 that any new set of rules or institutions does not leave those who are less well off worse off than  
656 they were before” (Zack, 2006). Arguably, the current aid deployment and distribution models are  
657 using Rawls as their guide. By not emphasizing - indeed championing - the planning, mitigation,  
658 and long-term components of the disaster cycle, these contemporary aid frameworks are turning  
659 away from utilitarianism. John Locke and Thomas Hobbes discussed the state of nature ad  
660 infinitum. Both philosophers “implied that even if there never were a state of nature in human  
661 history, positing it afforded political theorists an idea of human life without government, to which  
662 human life with government could be compared and justified” (Zack, 2006). Similarly,  
663 international aid deployment could be compared and justified by imagining its absence. Envision a

664 disaster, like the Haiti earthquake in 2010, with no international response. Moving beyond our  
665 heartfelt indignation at this idea, how would that sovereign nation have fared? To what extent  
666 would disaster urbanization have occurred with no external influence? How many post-earthquake  
667 deaths? This idea of ignoring post-disaster human suffering is unacceptable other than to consider  
668 the opposing sides of Rawls' acceptable state of nature and utilitarianism that tends to look at the  
669 impact of a disaster over time to determine the greatest good. Today's vernacular summarizes this  
670 as the difference between just bouncing back and the idea of bouncing forward. "The notion of  
671 bounce forward is to see disaster as an opportunity for local livelihood enhancement rather than as a  
672 simple return to status quo ante" (Manyena et al., 2011). After a disaster, the immediate activity  
673 may appear closer to just returning to a pre-disaster state - whatever that might have been.  
674 However, this paper posits that bouncing forward and serving the greatest good over time must be  
675 the prevailing mandate at the moment of deployment until the last foreign aid worker leaves. C.S.  
676 Lewis called this the ethics of first and second things whereby he described that one could not arrive  
677 at second things if they take place first. "Violating the nature of first and second things has  
678 consequences ethical in nature" (Veil et al., 2013). Applied here, this means that a choice of partial  
679 good (focusing predominantly on those with immediate needs) over that of the total good (including  
680 long-term sustainability) will result in the loss of the partial good anyway. All aid must contribute  
681 to future resiliency lest the aid community own the perception of purposefully creating future  
682 business for itself. The DHAD ethical foundation supports the greater good through local  
683 empowerment and recognizes that this might be at the peril of a single child. While this  
684 utilitarianism-based framework carries that cruel calculus, over time, it responds better to the  
685 ultimate mandate of saving more lives.

**686 5. Conclusion**

687 This focused qualitative literature review uses gaps and corroboration within the literature  
688 on the specific topic of aid deployment into a sovereign nation to demonstrate plausible culpability  
689 that current centralized humanitarian aid deployment models have in contributing to disaster  
690 urbanization while not supporting locally empowered recovery. Next, the literature has shown that  
691 the concept of Decentralized Humanitarian Aid Deployment (DHAD) could meaningfully  
692 contribute to all four components of the disaster cycle and not a one-dimensional focus on response.  
693 Four DHAD sub-themes support this central premise. Existing, local deployment and distribution  
694 matrices, known as collaborative aid networks (CANs), connect their potency to the sustainable  
695 deployment framework of DHAD. Similarly, cash transfer programs (CTPs) identify themselves as  
696 another existing component that would directly invigorate and complement the use of DHAD. A  
697 foundation to create a weighted index takes shape using relevant literature and provides a practical  
698 segue to employ the DHAD concept outside of academia. The intent is to take the first step toward a  
699 deployment model that can be visualized and acted upon in the shortest possible timeline. Finally,  
700 international humanitarian principles, donor guidelines, and historical, ethical foundations were  
701 discussed to elucidate the context and responsibilities inherent in entering a sovereign nation with  
702 aid. This helped establish the reasoning behind why principled aid delivery starts, not upon arrival,  
703 but with the decision of how to deploy responsibly. These ethical considerations also demonstrate  
704 that the aid community has a more significant contribution to make to those in need than delivering  
705 an efficient logistical response.

706

## 707 **6. Future Research**

708 While the literature has shown support of the DHAD componentry, the increase in frequency and  
709 intensity of disasters due to climate change (UNISDR, 2015) does not contribute to the DHAD  
710 rational in this initial study. The assumption is that climate change force multipliers will further  
711 justify the DHAD construct. This is a potential area of future research. The second area for future  
712 research, currently underway, is a case study for a lower-income country that further refines the  
713 DHAD approach. This will include a multi-layered, GIS analysis that incorporates some or all of the  
714 socioeconomic and environmental variables suggested herein. A country-specific, actionable plan  
715 that, regardless of the inconsistencies or pace of funding, can guide locally empowered risk  
716 reduction and sustainable development is the goal. The first implementation partner may be an  
717 entity like the United Nations Development Assistance Framework (UNDAF) who could help turn  
718 the approval of aid deployment in a sovereign nation into more than a rubber-stamped formality.  
719 This is the moment when a DHAD aid deployment policy could shape how aid addresses that  
720 nation's vulnerabilities today, tomorrow, and in ten years.

## 721 **7. Acknowledgements**

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725 better final product.

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**729 8. List of Abbreviations**

730 CAN - Collaborative Aid Network

731 CTP - Cash Transfer Program

732 DHAD - Decentralized Humanitarian Aid Deployment

733 FEMA - Federal Emergency Management Agency

734 GHD - Good Humanitarian Donorship

735 GIS - Geographic Information Systems

736 IASC - Inter-Agency Standing Committee

737 IDP - Internally Displaced Person

738 ICRC - International Committee of the Red Cross

739 IFRC - International Federation of Red Cross and Red Crescent Societies

740 NGO - Non-governmental Organization

741 UNDAF - United Nations Development Assistance Framework

742 UNFCCC - United Nations Framework Convention on Climate Change

743 UNOCHA - United Nations Office for the Coordination of Humanitarian Affairs

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