Which Countries Should Benefit from the Green Helmets Initiative?
Technical Note 3 by Dr. Rémy-Claude Beaulieu

1. Introduction

The Green Helmets Initiative (GHI) aims to broaden the current role of armed forces throughout the world in order to include responding to natural disasters at home and abroad.[1] This is much needed given the increase in the quantity and scope of natural disasters due to climate change.

2. National Considerations

It is obvious in our view that each and every country deciding to update the role of their national armed forces would benefit from such an initiative in the event of a natural disasters. Such upgrading of armed forces should be aligned to the most frequent natural disasters taking place in a given country.

As an example, the most frequent disasters happening in Canada are riverine floods in the springtime. More recently, wildfires have created disastrous conditions during the summertime in Quebec and British Columbia due to increased weather temperatures due to climate change. In other parts of the world, like Central America, the armed forces of the region should most likely be equipped and trained, if they are not already, to respond to earthquakes and hurricanes. In South-East Asia, monsoon flooding and tsunamis have been very destructive historically and even more in recent times, suggesting that armed forces in the region should be equipped and trained to address such calamities.

Over and above "national responses," the Green Helmets Initiative (GHI) considers the possibility of providing regional and international support. Regional support would come from centres established in various areas prone to specific disasters. Such regional centres would be equipped and trained to respond to the most frequent disasters happening in a given region. For example, a regional centre could be established in Central America with regional and international armed forces equipped and trained to address earthquakes and hurricanes, while a similar centre and forces could be established in South-East Asia, equipped and trained to address monsoons, flooding and tsunamis. These regional centres would become first responders given that rapid and early responses can often save lives and reduce the potential impact of upcoming calamities.

Such regional centres could also become training centres, which would increase and improve the capabilities of local and international armed forces. This could provide opportunities to

[1] The Green Helmets Initiative, by R-C Beaulieu, Canada, first issued in 2021, updated in 2024, 5 pages.

share experiences on risk prevention as well as best response approaches and equipment. For more details on the international dimensions of the GHI, see Technical Note 2, recently issued.[2]

3. The Most Vulnerable

The international dimensions of the GHI refer to the potential United Nations or NATO facilities that would be established to assist countries facing urgent needs for support when confronted with natural disasters. The regional centres mentioned above would be part of the institutional mechanisms or facilities to support affected countries. But which ones?

The World Risk Report (WRR)[3] offers a number of tools and concepts to respond to this question. First, the WWR provides the "world risk index," which presents the disaster risk in 193 countries, covering 99% of the world population. In doing so, the WWR establishes a difference between the countries that are most at risk and those that are most vulnerable. The first is based on the frequency and scope of natural disasters, while the second refers to the capacity or lack of capacity to respond to such disasters. The first identifies those most affected by climate change, while the second is those most affected by socio-economic and governance issues, and conflict situations like those currently occurring in Ukraine and the countries in the Horn of Africa.

Most risk affected countries

Rank	Country	Risk
1.	Philippines	46.82
2.	India	42.31
3.	Indonesia	41.46
4.	Colombia	38.37
5.	Mexico	37.55
6.	Myanmar	35.49
7.	Mozambique	34.37
8.	China	28.70
9.	Bangladesh	27.90
10.	Pakistan	26.75
11.	Russian Federation	26.54
12.	Vietnam	25.85
13.	Peru	25.41
14.	Somalia	25.07
15.	Yemen	24.26
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Least risk affected countries

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179.	Maldives	1.02
180.	Nauru	1.00
180.	Czech Republic	1.00
180.	Slovakia	1.00
183.	Hungary	0.97
184.	Bahrain	0.95
185.	Malta	0.94
186.	Belarus	0.83
187.	Singapore	0.81
188.	Liechtenstein	0.79
189.	Luxembourg	0.52
190.	Sao Tome and Principe	0.48
191.	San Marino	0.38
192.	Andorra	0.26
192.	Monaco	0.26

Source: World Risk Report, 2022, p. 7.

[2] The Green Helmets Initiative: the International Dimensions (Technical Note 2), by R-C Beaulieu, 2025, 6 pages.
[3] World Risk Report 2002, Bündnis Entwicklung Hilft, Ruhr University Bochum—Institute for International Law of Peace and Armed Conflict (IFHV), reviewed in 2022, 75 pages.

According to the WRR, the countries with the highest risk index in 2022 were: the Philippines (WRI 46.82), India (WRI 42.31) and Indonesia (WRI 41.46). The report adds, "Nine of the 15 countries with the highest disaster risk are among the 15 most populous countries in the world. The most vulnerable countries in the world are Somalia, followed by Chad and South Sudan." Also, it is interesting to note that "The examples of South Korea, Italy, and Greece illustrate the principle that low or very low vulnerability can reduce disaster risk even when exposure is very high. However, the examples of DR Congo, Nigeria, Sudan, and Iraq show that very high vulnerability can lead to high disaster risk even with medium exposure."[4]

Figure 4: The WorldRiskIndex and its spheres

Source: World Risk Report, 2022, page 13.

Therefore, if the GHI was applying the WRR approach, this would mean that it should not only take into consideration the WRI, but also the countries' vulnerability or capacity to respond. As examples, the authors compared the most at-risk regions and the most vulnerable ones: "The Americas is the continent with the highest disaster risk. Asia is in second place, followed by Africa and closely after that Oceania. Europe has by far the lowest risk in a global comparison. While the continent with the highest overall vulnerability is Africa. 13 of the 15 most vulnerable countries in the world are located there."

4. Natural Disasters and ICT

[4] World Risk Report 2022 "Key Findings," p. 6.

Moreover, the 2022 World Risk Report focuses on digitalization. According to the authors, "Digitalization has significantly changed disaster preparedness and management. Information and communication technologies (ICT) are used in all phases of disaster management for knowledge acquisition, information dissemination, communication, as well as control. Examples include the use of global databases for risk analysis, digital early warning systems, apps for recording damage, and communication with those affected via social media platforms."

This leads us to two conclusions. First, that the average risk countries that do not have digital capacities often become the most vulnerable. And second, that the Green Helmets Initiative should have the highest potential digital capacity (Information and Communication Technologies—ICT) to quickly identify regions or countries where natural disasters can require interventions. Moreover, eventually the GHI could collaborate with other UN or NATO competent agencies to assist the most vulnerable countries in establishing digital capacity to detect and assess the scope of upcoming natural disasters as early as possible.

The 2022 World Risk Report offers a very exhaustive and complex model of digital technologies (see below) which we may not analyze in full given the limitations of this Technical Note.

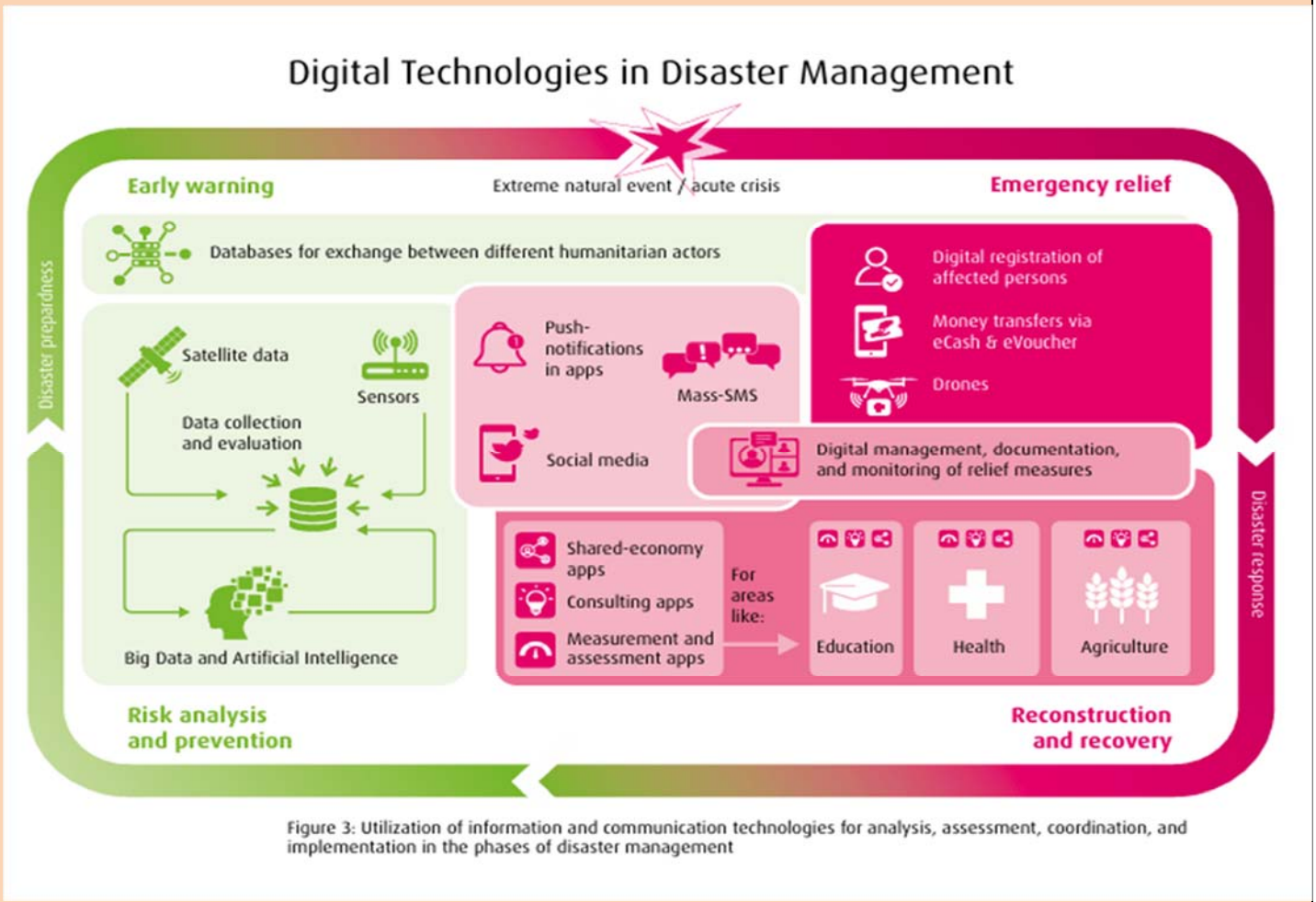

Figure 3: Utilization of information and communication technologies for analysis, assessment, coordination, and implementation in the phases of disaster management

Source: World Risk Report, 2022, page 11.

However, we may underscore the use of cellphone warning systems, which may be considered a basic tool in more developed countries, as an alert system when earthquakes, tsunamis or hurricanes are upcoming. The use of such basic instruments could save hundreds if not thousands of lives.

5. Conclusions

In conclusion, you will find below the World Risk Index and vulnerability by region, which provide most elements of information needed to answer the key question of this Technical Note:

	WRI	Exposure	Vulnerability	Susceptibility	Lack of Coping Capacities	Lack of Adaptive Capacities
Africa	**4.33**	**0.70**	**31.26**	**30.18**	**14.80**	**60.43**
Central Africa	4.72	0.86	51.21	33.12	58.49	62.89
East Africa	3.86	0.55	32.74	34.12	15.38	61.93
North Africa	10.21	3.91	37.38	21.72	49.12	47.74
South Africa	1.82	0.14	25.04	26.37	11.96	54.19
West Africa	3.58	0.44	29.74	30.79	13.46	61.30
The Americas	**9.99**	**4.29**	**20.39**	**16.21**	**11.08**	**44.21**
Caribbean	3.27	0.79	13.51	11.42	10.28	38.05
Central America	15.19	9.36	27.44	28.79	12.27	47.46
North America	20.86	32.74	13.49	10.99	6.94	32.45
South America	13.00	8.96	22.41	19.06	12.19	47.25
Asia	**5.93**	**1.60**	**21.99**	**15.87**	**12.98**	**43.77**
Central Asia	2.18	0.22	18.97	15.53	10.76	44.22
East Asia	11.82	9.96	12.75	15.78	11.27	16.20
South Asia	5.93	1.60	27.54	27.17	55.38	47.58
Southeast Asia	14.36	8.64	25.00	19.10	14.34	47.19
West Asia	3.79	1.02	21.06	12.94	19.89	38.06
Europe	**2.14**	**0.49**	**8.87**	**6.92**	**5.69**	**29.30**
Eastern Europe	1.73	0.21	14.07	7.77	8.91	37.67
Northern Europe	2.10	0.72	6.23	6.64	2.13	21.58
Southern Europe	2.91	0.59	10.46	7.99	7.72	25.18
Western Europe	1.14	0.17	7.41	4.99	3.14	29.30
Oceania	**4.15**	**1.23**	**13.20**	**9.85**	**10.90**	**33.39**
Australia / New Zealand	17.21	24.60	12.05	7.76	8.66	29.96
Melanesia	12.63	7.71	20.88	18.44	11.82	43.74
Micronesia	2.29	0.50	10.13	7.90	2.86	42.00
Polynesia	3.15	0.81	12.24	15.38	10.54	26.43
World	**4.11**	**1.05**	**20.39**	**15.86**	**11.77**	**44.35**

Figure 9: Comparison of the medians of the country groups (based on WorldRiskIndex 2022)

Source: World Risk Index 2022, page 47. (See Annex 1 for key definitions.)

Finally, the International Unit for Climate Mediation[5] (IUCM) may be a key tool for Green Helmets interventions, when natural disasters happen in cross-border situations or in regions affected by conflict, like those mentioned in this Technical Note, such as Ukraine or the

[5] New: International Unit for Climate Mediation, by Judge Louise Otis, 2024, one page.

Horn of Africa. The IUCM has been proposed by the Honorable Judge Louise Otis (see below).

The IUCM would provide high level experienced mediators who are familiar with international climate change. These experts would work and travel in real time to complete the negotiations. The IUCM will consist of two types of mediators:

1. Governance mediators to assist climate negotiations.
2. Field mediators assisted by scientists to help resolve conflicts generated by the displacement of people and populations following floods, cataclysms and desertification.

Their tasks would be made more complex and urgent given the context of climate change. They may assist the Green Helmets and affected countries' authorities to determine where, when, with whom and how assistance may be provided.

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Judge Louise Otis is a Canadian and international active judge, arbitrator and mediator in administrative and commercial matters. She is President of the Administrative Tribunal of the Organization for Economic Co-operation and Development (OECD). She is President of the Administrative Tribunal of the North Atlantic Treaty Organization (NATO).

Annex I: Key definitions:

1. **Risk** is the interaction between the spheres of exposure and vulnerability.
2. **Exposure** is the extent to which populations in hazard-prone areas are exposed to and affected by the impact of natural disasters.
3. **Vulnerability** is the predisposition of a population to be vulnerable to damage from extreme natural events.
4. **Susceptibility** is the structural and general condition increasing the overall likelihood of populations suffering damage from extreme natural events.
5. **Coping capacities** refer to the abilities of a society to counter the adverse impact of natural disasters.
6. **Adaptive capacities** refer to a long-term process and strategies to achieve changes in social structures and systems to counteract and mitigate actual or potential impact of natural disasters.

Source: World Risk Report 2022, p. 40.