

EVOLVING MODELS OF USING ARMED FORCES IN DOMESTIC DISASTER RESPONSE AND RELIEF

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Abstract: Due to the high level of readiness and their comprehensive capabilities, armed forces are demanded or expected to contribute to the response to incident and disasters of natural, technogenic or manmade origin. Military units may provide surge capacity, unique capabilities, long-term support to relief and recovery or even be the first to respond to a disaster. This article reviews the European experience in the organisation for using armed forces in domestic disaster response and relief operations, models of military employment, examples of military formations specially tailored for disaster response, multinational disaster response and relief formations, and specific military capabilities used in domestic response and relief operations.

Keywords: crisis management, disaster response, defence policy, niche capabilities, surge capacity, military support, civ-mil coordination.

Introduction

Natural and man-made disasters frequently require quick reaction and sustained effort over a period of time. Armed forces can, and are often expected to contribute to response, relief and recovery operations by scaling up the response or providing niche capabilities.

Our previous article ¹ provides a review of the policy evolution and legislative basis for involvement of armed forces in disaster response and relief operation, with focus on their domestic use. This article looks into organisational issues of using armed forces in domestic disaster response and relief operations. The first section provides an overview of the models of military employment in disaster response operations prevalent in European and neighbouring countries. Then, it describes several military formations specially designed to provide disaster response, followed by examples of multinational disaster response and relief formations. The final section reviews the specific military capabilities usually made available for domestic disaster response and relief operations. We conclude by reminding that when prudently used, military forces can provide valuable contribution to saving lives and property.

Models of Military Employment in Disaster Response Operations

In most countries, disaster response and relief capacities are spread across different agencies and levels – national, regional, and local. Disaster management or civil protection agencies, medical emergency services, firefighting brigades, police forces, armed forces, business emergency units, volunteer organisations and specialised NGOs can contribute capabilities to emergency response depending on the nature of the crisis and their institutional structures and mandate.

Central governments need to be able to scale up emergency response capability to react in a timely manner since many current emergencies are complex, often broader than initially anticipated and with multiple effects. To cope with these challenges, the regions and municipalities need reinforcements along with their own capabilities. In many countries, additional national emergency forces are specifically trained and equipped to provide ‘surge’ capacities. Effective cooperation is an issue of legal arrangements, depends also on inter-agency planning, standardised procedures, and interoperability of the equipment and command and control systems.

In all countries in this review,² the armed forces play an important role in domestic disaster response and relief, particularly during large-scale natural disasters, industrial catastrophes and incidents related to the spread of specific dangerous agents, e.g. chemical, biological and radiological. Due to their special expertise, equipment and high operational readiness, they might be called upon in the first line of responders or to reinforce the core civilian forces.

The experience of the countries under review in disaster response and relief is quite comprehensive and bounded with variety of different political, institutional, operational, etc. factors. Some researchers find controversy in the very use of armed forces for civil protection, asking to what extent the military engagement in domestic civil affairs is appropriate.³ Obviously, the practice of an individual country on the use of the military is affected by a combination of normative dynamics and specific interests, positioning it distinctly along the civilian-military power continuum or civil-military relations.

The following typology of the employment of military units and assets in cases of domestic natural and manmade disasters is based on the UK document *Operations in The UK: The Defence Contribution to Resilience*,⁴ reflecting also the legal arrangement and military doctrinal documents of reviewed countries:

- *Military augmentation of civil authorities and forces.* This is a model where the military has a supporting role. It is applicable when the country has a well-established multilevel (usually – national, regional and local) disaster response system with relatively large number of professional rescuers and

volunteers. The use of the military might be based on deliberate planning or as ad-hoc immediate response, especially in cases when they are physically closer to the threatened area than the civil protection forces. Popular roles are flood and fire fighting, debris clearance, post-disaster security and control. The guiding principle here is that military personnel should be used only to provide extraordinary services during the emergency and/or to supplement civilian units if there is a manpower shortage. In this case the military are operating under the control of civilian authorities, while preserving their own internal chain of command. The successful application of this model requires joint civil-military planning and training under variety of scenarios. Unified standards of operations are also required. A higher level of implementation of this model involves co-ordinated capability planning.

- *Deployment of military assets.* This is the most common model as it does not require specific legislation, planning and command arrangements. Military assets in this case are personnel (not units), individual means, specialised machines and equipment and various elements of typical military logistic kits, e.g. tents, blankets, stoves, equipment for water supply, electricity generators, etc. They could be provided together with personnel or simply delivered to the responsible authorities. All the operations in this model are led entirely by civilians. This model does not require joint planning and capabilities' development.
- *Systematic use of designated military units.* Development of special military units for disaster response, rescue and relief may have different reasons – traditions, a large territory, complex disaster relief in overseas territories, search for efficiency in the development of capabilities that are relevant in peacetime, crisis and war, a decision not to lose military capabilities during defence reforms and downsizing of personnel, etc. Among the most common cases are the use of military CBRN protection units for such type of crisis response and relief and military medical capabilities.

The military units might operate entirely under military command. Alternatively, the operational control can be delegated to the core national crisis management authority. In any case, they are among the first responders in emergency. In this model, the military units should be fully interoperable with the civilian disaster response structures in terms of doctrine, equipment and standard operating procedures. Some military units may perform permanent national civil functions as meteorological surveys, radiological control, production of geographic, geomagnetic, and hydrographic reference materials, etc.

- *Military responsibility for particular civil functions.* In some cases, the military are prepared to take over certain functions from civil authorities in emergency. Usually, such practice is a result of specific long-lasting capability developments, when it is considered more efficient to continue to provide these functions by the military rather than building a new civilian capacity. In other cases, such arrangements may reflect the ‘total defence’ model. Then, when the function is deliberately planned and legally regulated, it might be effectively applied. As a general rule, if the respective decisions are made *ad-hoc*, such a mandate is not suitable for the military.
- *Use of the military in security and police roles.* This model is implemented in those national legal arrangements and policies that do not distinguish between military’s domestic functions in providing public order and disaster response. In cases of large-scale disasters, pandemics or industrial accidents, one of the operational tasks is the isolation of the area in order to prevent marauding and spread of criminality. In other cases, local people enduring severe damages may react by violent anti-government actions. Both cases are sensitive, since the military might be provoked to use force against the citizens. Consequently, such practice requires legal introduction of an emergency statute that determines precisely the civilian-led chain of command, and the tasks and rules of engagement of the military.

This typology refers to the operational level of civil-military cooperation.⁵ At the ‘upper’ level is the civil-military coordination, i.e. the mechanism of crisis management decision-making, including on the use of armed forces.

Special Military Formations for Disaster Response

As already pointed out, the countries included in this review may have different reasons to establish special military units and even forces. However, usually key reason is the immediate response (i.e. in less than five hours) by providing some essential services. The tasking, structure, equipment and training of the special military disaster response units are much more closely co-ordinated with those of the other components of the national civil protection system than those of ordinary military formations. Their chain of command is adapted to civilian decision-making and management system. However, the special military disaster response units are, first of all, part of the national military and should be able to take part operations of the armed forces at any time, and without specific training or other adaptation (for example, instead of humanitarian search and rescue to conduct combat search and rescue).

From organisational point of view, the special military formations for disaster response have several common core components:

- Command and Control;
- Communications and information;
- Specific support.

Their operations differ from typical military operations that may require specific training.

The units differ according to their range of operations and level of readiness, as well as their composition of professional, i.e. ‘active duty,’ and reserve staff. The presumption is that the critical support and services are provided by professional elements in all situations, quickly and effectively, and against a persisting threat the reserve elements increase both sustainability and performance of the assistance, provided to local people and the authorities.

Below we present examples of special military formations for disaster response from the countries under review.⁶

After suffering from variety of massive natural disasters in the early 2000s, Spain’s Government decided in 2005 to establish a Military Emergency Unit (UME – Unidad Militar de Emergencias) as a new branch in the armed forces. The MEU is a permanent joint force, dedicated and highly specialised to intervene in emergencies in order to complement and reinforce the Spanish civil protection system. The unit maintains a high-level intervention readiness and is deployable throughout the country and abroad. It is able to provide support in fighting fires, aiding in natural or environmental disasters (either natural or manmade) and situations of extreme hazard. Support will be primarily focused on sanitation, distribution of supplies, the establishment of infrastructures, surveillance of areas susceptible to environmental aggressions or ecological damages, and possibly clean-up and recovery. The UME’s special capabilities are for response to CBRN threats to the population.

According to a number of royal, legal and governmental acts, issued between 2005 and 2011, the Military Emergencies Unit may be deployed when any of the following emergency situations occurs:

- Emergencies that have their origin in natural hazards, including floods, earthquakes, landslides, extreme snowfall and other adverse meteorological phenomena of great magnitude;
- Forest fires;
- Emergencies, resulting from technological hazards, among which are chemical, nuclear, the radiological and biological hazards;

- Emergencies, which are the result of terrorist attacks or illegal and violent acts, including those against critical infrastructures, hazardous installations or acts involving nuclear, biological, radiological or chemical agents;
- Environmental pollution;
- Any other act, upon the Prime Minister's decision.

The UME has five intervention battalions, located in Madrid, Sevilla, Valencia, Zaragoza and Leon, a support regiment, a CIS battalion, and a transportation battalion. The aviation component includes a helicopter battalion and 43rd Air Force Group with a mission for firefighting and aviation search and rescue (to meet the mission, 43rd Group has 14 CL-215T and 3 CL-415 airplanes). The UME's HQ is at Torrejon Air Base (22 km away from Madrid). The total number of personnel is up to 4 000.

For disaster protection purposes, the Bulgarian Military Medical Academy and its subordinate military hospitals maintain specialised Rapid Reaction Military Medical Team, based in Sofia, with 15 teams: 4 – surgery; 2 – resuscitation; 2 – therapeutic; 1 – toxicological; 1 – obstetrics- gynaecological; 1 – epidemiological; 2 – for infectious diseases; 2 – resuscitation teams for aerial medical evacuation).⁷ The Team has also specialised transport vehicles (4 ambulances; 1 mobile treatment cabinet – therapeutic room; 1 mobile paediatric room; 1 mobile obstetrics- gynaecological room; 1 mobile surgery room; 1 mobile resuscitation room; 1 mobile dressing vehicle; 1 bus for sanitary evacuation. Each of the Academy regional branches in Plovdiv, Varna, and Pleven maintain 3 teams (surgery; resuscitation; therapeutic) with the respective specialised vehicles.

Turkish Armed Forces' Natural Disasters Search and Rescue Battalion (NDSAR) was established by a decision of the General Staff of May 31st, 2001 (after the August 17th 1999 earthquake) to carry out special tasks for natural or man-made disasters such as earthquake, conflagration, flood, avalanche, erosion, and to conduct SAR missions for missing personnel, and take protective measures in cases of Chemical, Biological, Radiological and Nuclear (CBRN) attacks. NDSAR is equipped and trained to carry out any of its assigned missions worldwide. It is officially stated that NDSAR has conducted SAR tasks successfully at home and abroad regardless of the weather and terrain conditions and has the capability to accomplish any future SAR mission.⁸

The National Search and Rescue Unit of the Israel Defence Forces placed under the Home Front Command is a highly skilled force trained to execute special search and rescue missions, both in Israel and abroad. The unit was founded in 1983, and its expertise is in rescuing people trapped under ruins. The unit is comprised primarily of reservists who are always on call, with prepared kits to enable immediate departure, and a small core of soldiers in mandatory service. In addition to the rescue teams, the

unit employs doctors, engineers, operators of mechanical engineering equipment and handlers of rescue dogs. The unit is on-call 24 hours a day and is deployed whenever there is a disaster – an earthquake, tsunami, conventional or unconventional terrorist attack.⁹

The Oketz ('Sting') Unit (K-9) of Israel Defence Forces is considered to be one of the most professional canine fighting forces in the world, both for their counter-terror methods and their treatment of dogs. Each soldier is partnered to a dog, which they train to sniff out explosives, track down terrorists and neutralise hostile threats. The soldiers go into the field with their canine partners and do everything together, from searching terror facilities to finding people under ruins.

The Austrian Armed Forces have established in 1990 a Disaster Relief Unit (AFDRU), which is organised and trained for deployment abroad in up to 10 hours upon receiving an order. However, there are no constraints to the deployment of the unit in case of domestic emergencies. The tasks of AFDRU are varied and depend on the particular application. Its main tasks are search and rescue in urban terrain after earthquakes and treatment of drinking water after earthquakes and floods. Since AFDRU specialists (e.g. chemists, physicists, structural engineers, crisis and emergency managers, doctors, technicians) are active in different fields, AFDRU can also respond well to exceptional events and take corresponding measure.¹⁰

Multinational Disaster Response and Relief Formations

Disaster management often requires equipment and expertise that not each country may obtain. In many cases, the speed of response is important in order to prevent further spill-over effects of the disaster. The international experience illustrates that in several large-scale disasters (as the Nepal earthquake in 2015¹¹) and in very specific cases (as the Malaysian aircraft missing since 8 March 2014¹²) the international military operations may bring in a timely manner disaster response capabilities of the required types and quality. This collaboration often makes the difference between success and failure during recovery operations.

Moreover, multi-national military formations for assistance in natural and manmade disasters, which started appearing recently, may be the prospective solution for a growing demand of specific capabilities for civil protection. They are established along common sources of risks as big rivers, shared sea space or mountains, regular large forest fires, and others. The multinational formations provide mutually reinforcing capabilities and used to have a high operational readiness. Below are several examples of such formations.

TISA (TISZA) battalion's mission is the surveillance and urgent interventions in natural disaster situations along the Tisa River and participation in other disaster relief

operations. Hungary, Romania, Slovakia and Ukraine are the contributing countries. National elements follow respective national laws and rules. A national contingent's staff of the battalion may not exceed 200 persons, and should be no less than 100 persons. The national contingents follow their national organisational structure and are stationed on the territory of their own state. They execute their tasks with their own equipment. In 2012, the chairman of TISA regional initiative Steering Group proposed that the multinational battalion's area of responsibility is extended also to the Danube River area during the next missions assigned. If the proposal of the Steering Group Chairman is seen as feasible and accepted by the member states, the importance of the regional TISA initiative would increase also by attracting new countries in the region. Serbia is a perspective member of the multinational battalion,¹³ but, recently, the proposal has not been accepted by another country.

Germany, Poland and Denmark have developed comprehensive military cooperation since 1995. The ministers of defence of Denmark, Germany and Poland decided to establish a Danish-German-Polish military corps – Multinational Corps Northeast (MNC NE), with Headquarters located in Szczecin, Poland. According to the trilateral Convention, “Within the limits of national constitutions and in accordance with the provisions of the Charter of the United Nations, pursuant to the decisions taken by the competent national authorities, the Corps will be tasked: [...] to plan, prepare and on request to conduct humanitarian and rescue missions including natural disaster relief missions.”¹⁴

In the PESCO¹⁵ framework the European Union also develops capabilities to manage a range of emergencies including natural disasters, civil emergencies, and pandemics. One of the first 17 projects launched within PESCO aims to develop a “Deployable Military Disaster Relief Capability Package” expected to deliver a multinational capability for the assistance to EU and other States in both EU-led and non EU-led operations, to establish a new EU Disaster Relief Training Centre of Excellence, and ultimately a Disaster Relief Deployable Headquarters.¹⁶

Specific Military Capabilities for Domestic Disaster Response and Relief

Any country-specific method of building disaster management capabilities depends mostly on the construct of national security strategy and policy. An integrated approach to the national security sector is seen as more effective and efficient for capability management than the traditional single-department model.¹⁷ The building blocks of an integrated approach might include:

- A national security concept that integrates the security attributes of the state (independence, sovereignty, territorial integrity, etc.) with securing the vital functions of society;

- A national security strategy that provides consolidated management, employment, command and control throughout the entire ‘conflict continuum’ – peace, conflict, crisis, war, and post-conflict relief;
- Strategic management of the security sector based on co-ordinated organisation-specific aims, structures, standards of operations, and capabilities;
- A crisis management model based on balancing decentralisation and self-reliance with centralised leadership and reinforcement;
- ‘Bounding’ legislation¹⁸ and policy of its implementation that stimulate the national crisis response culture, building resilience, volunteerism and readiness to provide aid to the others.

As it seen from the review, some countries are moving decisively on this path – Finland, Sweden, Italy, Norway, France, UK and others have made considerable progress in the last decade. These countries’ approach to building cost-effective disaster response capabilities is based on a well-argued set of vital functions of the society and desired end-states, realistic threat scenarios, precise institutional tasking and co-ordinated capability development. Thus, nations aim to avoid duplication and gaps already at the level of strategy and policy planning.

Critical for the capabilities relevant to disaster response is also the transformation of former civil defence systems into ones for civil protection. The focus of civil defence is on wartime readiness, and what the system provides in normal, i.e. ‘peacetime,’ conditions is seen as of secondary importance. Civil defence requires complete centralisation, as this is a wartime function, and the principle of subsidiarity is not applicable. The focus of the civil protection system, on the other hand, is on the daily life of the people and these infrastructures and services that provide the vital societal functions. Such a system is expected to be decentralised to some degree through application of the principles of subsidiarity, mutual reinforcement and smooth transferability from normal towards crisis and wartime situations.

Surprising and severe natural and manmade disasters call for a massive coordinated reaction on a short notice. While the primary responsibility for disaster response lies with civilian agencies at local, regional, and state levels, the military also have manpower, equipment, training and organisation allowing enhancing the response, rescue and relief efforts. The degree in which their capabilities will be developed and utilised depends on the set of considerations explained above. While for the international engagement of military for humanitarian purposes there are some international guidelines,¹⁹ the adherence to such framework in military engagement for domestic purposes is a matter of a national choice. Nevertheless, most of the armies of the countries under this review have made disaster response, search and rescue and relief an important part of their capability programmes, offering rapid response and per-

forming medical assistance, logistical support, air support, aid distribution, protection and recovery in natural disasters, industrial accidents and other domestic emergencies.²⁰

The special military capabilities, which are different from the typical military equipment, used by the countries under this review, include the following:

Search and Rescue

Search and rescue operations might be performed on land, at sea or large water basins or flooded areas, and in urban environment. SAR involves the location, extrication, and initial medical stabilisation of victims of natural and manmade disasters or technological accidents:

- On land: search and rescue helicopters of the EC 135 P2 type, medical helicopters of Super Puma and Cougar type; pumping water and sludge mobile equipment;
- On water: inflatable boats, rigid aluminium boats;
- In urban environment: air scenting or trailing (and tracking) dogs.

Transportation

Transportation is provided mostly from the affected area towards main military or civilian operational bases:

- Transport helicopters, e.g. Eurocopter EC 135 and Super Puma, Boeing Chinook heavy CH-47, Bell UH-1H, Augusta-Bell 212 and other types;
- All-terrain vehicles (trucks, vans, buses) for transporting people and equipment;
- Heavy trucks;
- Multiplatform special vehicle supply & recovery off-road;
- Cranes with towing capacity of more than 20 tons.

Emergency primary medical care

Capabilities to deliver immediate first aid on the scene:

- Military multipurpose, air-portable, high mobility off-road primary medical ambulance vehicle with good payload capacity of URO VAMTAC, HUMVEE, and others types;
- Role 1 field military hospital (could be enhanced by adding surgery capacity).

Chemical, biological and radiological recognisance and decontamination

- Towing or self-propelled capacity for radiological, biological and chemical reconnaissance, assessment and decontamination of personnel, equipment, terrain, and vehicles.

Providing or producing drinking water

- Mobile military water processing equipment;
- Water tank trucks.

Fire fighting

- Rotary of fixed wing air platforms, with capacity to load 4-5,000 litres or more, such as Bombardier CL-415, Canadair CL-215-T and other types;
- Heavy forest fire trucks such as IVECO ML140E28W and other types;
- Heavy water tank trucks;
- Submersible pumps.

Providing interim emergency shelter

- Rapid deployable shelters – family or larger size for up to 100 people (ADAM type), equipped with electrical and heating systems;
- Electricity generators;
- Field kitchens;
- Mobile sanitation equipment.

Engineering for providing minimum essential access to affected areas

- Loaders;
- Excavators;
- Wheels tractors;
- Backhoes;
- Tilt rucks;
- Machines with capacity to work in tight spaces;
- Snowplough trucks (depending on the climate).

Field communications and command and control ²¹

- Command and control structure and capabilities that allow for effective communications between deployed military formations, with the local authorities and the other state agencies involved in the response and relief efforts, including international contributors: Combat Network C4ISR radio (PR4G) type; radio communications, able to connect with aeronautical and civilian systems of mobile (TETRA, TETRAPOL) and satellite (INMAR-

SAT, THURAYA) type; Information systems and network management, capable of managing messaging, mapping and receiving and distributing SAT TV and broadcasting;

- Rapidly deployable command post(s) with universal applications for command, control and communications in the disaster area;
- Rapidly deployable shelter system for the command post (or trailer type).

Area security, including delivery of aid

- Military police all-terrain multi-purpose patrol vehicles of Land Rover RWMIK, M1117, Plasan Sand Cat and other types;
- Trained and disciplined personnel.

Conclusion

This brief review illustrates the existence of a common tendency – as the security environment is becoming more complex and the range of natural and manmade disasters is expanding, the role of the military in domestic disaster response and relief is growing. As the overall aims of any military engagement in domestic emergency are to save life, to relief suffering, to limit damages and to restore, as quickly as possible, the essential functions of societies, the governments will use any opportunity and asset to respond effectively, and that includes the deployment of armed forces. Disaster response and relief are not the main tasks of the military, but are the ones that become increasingly relevant. Sometimes solutions offered by the military are the ‘*ultima ratio*’ in saving lives and providing survival capabilities; there is hardly a scenario where military forces can be excluded.²²

The military are under pressure for quick and comprehensive transformation. The core problem is that the simultaneous change in the strategic environment and domestic security needs generate political, military and management dilemmas about the roles, tasks, organisation, equipment and operations of the military at home and abroad. The countries under this study look for resolving these dilemmas through comprehensive security sector reforms, including transformation of national crisis management systems providing both common military capabilities to speed up or enhance the response to disaster and relief operations and capabilities tailored to support civilian authorities at home and abroad.

Acknowledgement

The research leading to these results was performed by the Centre for Security and Defence Management, Institute of ICT, Bulgarian Academy of Sciences as part of

the DRIVER/DRIVER+ project and has received funding from the European Union's Seventh Framework Programme under grand agreement no. 607798.

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- ² This study covered EU and associated countries Austria, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Israel, Italy, Latvia, Lithuania, The Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Spain, Sweden, Turkey, and The United Kingdom.
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- ⁶ While Switzerland is not included in the study, the Swiss Armed Forces also maintain units in the Special Forces Command tasked to provide "protection and intervention in support of civilian authorities in Switzerland." See <http://www.vtg.admin.ch/internet/vtg/en/home/themen/ksk.html>.
- ⁷ Air transport is provided by other military units or companies.
- ⁸ See Natural Disasters Search and Rescue Battalion (NDSAR), available at www.tsk.tr/20_ingilizce_tsktr/3_general_issues/natural-disasters-search-and-rescue-sar.html.
- ⁹ Home Front Command, available at www.idfblog.com/about-the-idf/idf-units/regional-commands/home-front-command/.
- ¹⁰ See Austrian Forces Disaster Relief Unit at <http://www.bundesheer.at/suche/index.php?q=afdru&search=>.
- ¹¹ See https://en.wikipedia.org/wiki/Humanitarian_response_to_the_2015_Nepal_earthquake.
- ¹² For the role of the military in an international search see <http://www.smh.com.au/federal-politics/political-news/mh370-search-australian-led-hunt-for-missing-malaysia-airlines-plane-to-end-without-new-evidence-20150603-ghgaf0.html>.
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- ¹⁵ PESCO – Permanent Structured Cooperation. For further information see the website of the European Defence Agency, [https://www.eda.europa.eu/what-we-do/our-current-priorities/permanent-structured-cooperation-\(pesco\)](https://www.eda.europa.eu/what-we-do/our-current-priorities/permanent-structured-cooperation-(pesco)).

- ¹⁶ See the list at [https://www.eda.europa.eu/what-we-do/our-current-priorities/permanent-structured-cooperation-\(PESCO\)/current-list-of-pesco-projects](https://www.eda.europa.eu/what-we-do/our-current-priorities/permanent-structured-cooperation-(PESCO)/current-list-of-pesco-projects), accessed November 18, 2018.
- ¹⁷ The value of the integrated approach is well illustrated by the recent UK Government decisions on national security. E.g. see *Fact Sheet 21: Coordinating Our National Security Approach* at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/62503/Factsheet21-Coordinating-Our-National-Security-Approach.pdf.
- ¹⁸ And not ‘prescriptive’ legislation.
- ¹⁹ See for example the Guidelines on the Use of Foreign Military and Civil Defence Assets in Disaster Relief, or ‘Oslo Guidelines.’
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- ²² A lesson learned by the Austrian armed forces. See Michael Schuster, National and International Disaster Response, presentation at the NBC Defence School “Lise Meitner,” slide 31, available at <http://www.advantageaustria.org/vn/events/MODSchuster.pdf>.

About the Authors

See p. 166 of this volume, <https://doi.org/10.11610/isij.4011>.