

Introduction

The Secretariat of the International Search and Rescue Advisory Group (INSARAG) in OCHA's Emergency Response Section (ERS) conducted a Technical After-Action Review (AAR) on 4-5 November 2020, of the Network's response to the Beirut port explosion on 04 August 2020, upon the request for international (USAR) assistance by the Lebanese authorities.

On 4 August at 6:08 PM local time, a warehouse containing large quantities of ammonium nitrate exploded in the port of Beirut. The subsequent blast caused widespread destruction, with damage reported more than 20 kilometers from the port area. The blast killed at least 200 people and injured about 6,500 others, while about 300,000 people were displaced from their homes. Health care centers, homes, and schools were severely damaged, causing a long-term impact on the lives of thousands of people. The situation in Lebanon prior to the blast had already been complicated by spill-over effects from the conflict in Syria. Existing vulnerabilities were exacerbated by internal political tensions, which came to a head in the days and weeks following the blast. The operational environment was challenging with the presence of hazardous chemicals spread by the blast, safety and security issues caused by the widespread anti-government protests which followed the blast, and pandemic-related travel and quarantine restrictions imposed by governments and the United Nations, as well as health and safety challenges arising from COVID-19.

Following the explosion, on the same day, the Government of Lebanon requested the support of international Urban Search and Rescue (USAR) teams to augment national authorities leading the response on search and rescue of victims in collapsed structures, through the European Union Emergency Response Coordination Center (EU ERCC). The first USAR team from France arrived in Lebanon the next day, followed by a 19-member United Nations Disaster Assessment and Coordination (UNDAC) team deployed in support of the Humanitarian Coordinator (HC), Humanitarian Country Team (HCT) and OCHA Lebanon Country Office on 6 August.

The one and a half day AAR was an open and frank discussion with the aim of proposing improvements and highlighting good practices for future responses. The sessions were led by panelists who were first responders and technical working group members from the INSARAG network, as well as by our partners.

The AAR was divided into five sessions, detailed in the [Agenda](#). The Lebanese Permanent Representative to the United Nations in Geneva and a Representative of the Lebanese Armed Forces who led the response shared their account on the rapid decision to call for international assistance. Representatives of OCHA and the European Union as well as INSARAG members spoke in-depth on what went well, and what areas are that the network and our partners can collectively strengthen for the next response, providing recommendations for action reflected in this report.

An honest and engaging discussion enabled ERS, in particular INSARAG and UNDAC networks and all responding agencies and organizations to identify lessons learned from this response and actionable recommendations which will support future improved response. This report includes comments and feedback from all 25

speakers, moderators and note takers. The meeting gathered 161 global participants. A total of 52 actionable recommendations, from the outcomes of the AAR will now be tabled at the INSARAG Steering Group (ISG) in May 2021 for review and implementation.

Session I: Opening and Introduction

The AAR opened with keynote remarks by H.E. Salim Baddoura, Ambassador of Lebanon, Permanent Representative to the UN and other international organizations in Geneva; H.E. Manuel Bessler, Ambassador and Global Chair of INSARAG; Mr. Peter Billing, Acting Director of ECHO Directorate; and Mr. Sebastian Rhodes Stampa, Acting Chief of the Response Support Branch and INSARAG Secretary. The moderator of this session, as well as the master of ceremonies, was Ms. Stefania Trassari, Humanitarian Affairs Officer and INSARAG/UNDAC Regional Focal Point at ERS, OCHA.

Ambassador Baddoura noted that in the hours following the explosion the Lebanese Government made a swift decision to call for international assistance through the European Union Emergency Response and Coordination Centre and specifically requested, amongst other requirements, the need for Urban Search and Rescue (USAR) teams and search dogs. He emphasized that INSARAG USAR Teams began deploying immediately and their rapid support at such a critical time demonstrated the real value of global partnerships.

Ambassador Bessler spoke of the unprecedented pandemic restrictions that INSARAG teams faced throughout the year. Being deployed for the first time during the pandemic, the INSARAG network were quick to adapt and show the flexibility necessary in extraordinary circumstances. Mr. Bessler highlighted the importance of adherence to the guidelines and principles of INSARAG and continuation of the discussion on flexible response and “Beyond the Rubble” (BtR).

Mr. Billing recalled the administrative arrangements between OCHA and ECHO which was signed in 2015 to enhance international cooperation and coordination within the UN system. He added that every disaster brings with it its own unique challenges, and especially so in the current pandemic environment. The global networks and organisations must constantly seek new ways to adapt and improve together for the benefit of people affected by disasters.

Mr. Rhodes Stampa highlighted that *(quote)* “...from the USAR Coordination Cell (UCC), INSARAG Coordination & Management System (ICMS) and Damage Assessment Coordination Centre (DACC) and USAR teams post mission reports, it is clear that the INSARAG network and partners performed strongly despite all the restrictions related to the ongoing pandemic and the challenging operating environment...” *(un-quote)*. In addition, he stressed the need for frank and open discussions in this AAR to reflect on areas that the networks have done well, to continue and strengthen good practices, but more importantly, areas that the international responders could do better and work together to improve the next response. Despite the Beirut response being the first of its type in the current pandemic, it was highly encouraging to see USAR teams deploy in support of the Government of Lebanon, in their hour of need.

Session II: International Response, UCC and USAR Operations

This session was composed of Part I and Part II. Part I included the following speakers:

1. Captain of Lebanese Armed Forces and Liaison Officer to the UCC, Ziad Abou Malhab, who provided a first-hand overview of the response to the Beirut port explosions.
2. Mr. Thomas Peter, Manager of the Virtual OSOCC (VO) and Head of the Coordination Platforms Unit, ERS OCHA, Geneva, who presented on the operational activity and statistics on the mission in the Virtual OSOCC, and observations on team’s engagement on the platform during the response.

3. Mr. Peter Muller, UNDAC Team Leader and UNDAC Global Lead, ERS OCHA, Geneva, provided a big picture overview of the humanitarian response and on OCHA's response, including lessons learned.
4. Mr. Juan Alfonso Lozano Basanta, ERCC Deputy Team Leader, and ERCC Coordinator for the Response in Beirut Mission and Ms. Esther El Haddad, ERCC Deputy Team Leader, ERCC Liaison Officer in the Beirut Mission, jointly presented on the EU Civil Protection Mechanism and the ERCC and their engagement in the response to the Beirut explosions.
5. Mr. Pekka Tiainen, Senior Specialist, European Union Civil Protection Team (EUCPT) Leader, who briefed on the best practices and lessons learned from the deployment of the EUCPT.
6. Mr. Christophe Debray, INSARAG French National Operation Focal Point together with Mr. Vincent Tisser, Chief of the 1st Military Battalion for Civil Protection Team Leader (TL) FRA2 provided an overview of the first arriving team's perspective.
7. Mr. Arjan Stam, UCC Manager, briefed on the set up of the UCC, with a focus on speed, coordination, flexibility, ICMS and DACC.

Part I was moderated by Mr. Winston Chang, Unit Head in the INSARAG Secretariat, UN OCHA, Geneva.

The speakers of Session II Part II were:

1. Mr. Arjan Stam, UCC Manager.
2. Mr. Mariusz Feltynowski, AEME Regional Chair, INSARAG policy focal point.
3. Mr. Oleg Grozovsky, International Rank Rescuer, Centrospas Team (EMERCOM of Russia).
4. Ms. Margherita Fanchiotti, Focal Point for Response UNEP/OCHA Joint Environment Unit and environment expert in the UNDAC Beirut response.

The moderator was Mr. Jose Maria García, Senior Program Management Assistant, Mission Focal Point in ERS and INSARAG Secretariat, UN OCHA, Geneva.

The second part of the session offered a perspective of the deployment to Lebanon from three different responding entities (Poland USAR, EMERCOM of Russia and OCHA-UNEP Joint Environmental Unit). They provided an overview of the initial deployment, their main tasks and lessons observed are captured in the matrix below.

Stakeholders and Functional Areas	Identification of “Good Practices”	Identification of “Areas for Improvement”	Actionable Recommendations
Virtual OSOCC	<ol style="list-style-type: none"> 1. The information and statistics about classified USAR Teams from the USAR Directory and USAR team deployments are made available through infographics. 	<ol style="list-style-type: none"> 1. USAR teams must update their status and other key information in the on-line Fact Sheet correctly to avoid wrong results. 2. The structure of subtitles under the title “USAR Coordination Cell” in the Virtual OSOCC discussion appears obsolete and does not effectively support information 	<ol style="list-style-type: none"> 1. The USAR teams to be more rigorous in updating their status and other key information in the on-line USAR fact sheet in order to allow accurate statistics and infographics about USAR deployment in emergencies. An automated process to notify teams that have not updated their status at the closing (archiving) of the disaster discussion should be envisaged.

	<ol style="list-style-type: none"> USAR fact sheets that are completed on-line are now automatically converted into pdf format for immediate download. 	<ol style="list-style-type: none"> sharing and coordination in the UCC. SOPs or checklist for Virtual On-Site Operations Coordination Centre (VO) moderators and USAR teams are required to guide their interaction with the Virtual OSOCC during mobilization and their coordination with the UCC. The responsibility for development of operational guidelines for USAR deployment is currently shared between Guidelines Review Group (GRG), Information Management Working Group (IMWG) and Training Working Group (TWG). A dedicated Operations Working group (OWG) may be required. 	<ol style="list-style-type: none"> The Secretariat to inform all teams on the revised procedures for USAR teams to complete only the on-line Fact Sheet, which is automatically converted into pdf for download, and are no longer required to upload the Fact Sheet separately. The ERS VO Manager to advise on the development of an SOP and/or checklists for VO moderators and USAR teams regarding their interaction with the Virtual OSOCC during mobilization and coordination with the UCC. Virtual briefing sessions to be considered. The INSARAG Steering Group (ISG) to consider strengthening (and/or re-naming) the TWG to include an Operations element, or to create a separate OWG comprising INSARAG Team Leaders from all Regional Groups to review operational issues. The ERS VO Manager to review and modify the subtitle-structure under the title "USAR Coordination Cell" in the Virtual OSOCC disaster discussion to better support UCC information exchange and coordination
Stakeholders and Functional Areas	Identification of "Good Practices"	Identification of "Areas for Improvement"	Actionable Recommendations
Lebanese Armed Forces	<ol style="list-style-type: none"> Appointment of a Liaison Officer with each USAR Team UCC facilitated access to information, resources and support. UCC and coordination activities' functioned well. 	<ol style="list-style-type: none"> The INSARAG network should continue focusing on the INSARAG awareness trainings with disaster prone countries, especially those without existing USAR accredited Teams Affected countries could be familiar about international information management platforms (VO) to be updated on progress and to post information relevant to the international teams. There are existing procedures described in the INSARAG Guidelines regarding USAR 	<ol style="list-style-type: none"> The ERS INSARAG Unit to develop an information package that can be shared with the host government of a disaster affected country upon arrival if they are not aware of INSARAG international coordination arrangements. The Regional Groups to consider offering and facilitating INSARAG Awareness Training Sessions prioritizing their respective disaster-prone countries in the region. The Regional Groups and the ERS INSARAG/UNDAC Regional Focal Points (RFPs) to encourage disaster-prone countries to participate in the Regional Earthquake Response Exercise (ERE) or to host such exercises to test their disaster response plans.

		<p>Teams actions on Chemical, Biological, Radiological and Nuclear (CBRN) threats on operations sites. In the matrix as a potential area for improvement, more emphasis should be placed on the use of the present Guidelines in the right way, as according to the present Guidelines USAR Teams are not supposed to work in the presence of CBRN agents. USAR Teams are supposed to detect such threats and report to Local Emergency Management Authority (LEMA) directly on site or through the coordination structures established (i.e., UCC).</p>	<ol style="list-style-type: none"> 4. The VO Manager to grant VO access quickly for LEMA's appointed National Liaison Officer (LO) in the UCC; and to consider this by Working Groups (WGs) in the next USAR Coordination (UC) Manual and INSARAG Guidelines review. 5. The revised UC Manual and Guidelines to take into account the need for an UNDAC Environmental Expert be available to advise teams about reporting hazardous materials on worksites and during general assessments. 6. The ERS INSARAG/UNDAC RFPs to work with the OCHA Lebanon office and explore ways to strengthen localization and cooperation and offering INSARAG USAR training for the Lebanese first responders.
Stakeholders and Functional Areas	Identification of "Good Practices"	Identification of "Areas for Improvement"	Actionable Recommendations
France-First Arriving International USAR Team	<ol style="list-style-type: none"> 1. Fast response with the team arriving within the first 24-hours from the request. 2. Strong linkage of French permanent Civil Protection Attaché to the Lebanese Governmental Authorities and the Lebanese Civil Defense (LCD), facilitator for the integration in the national response. 3. Close consultations at the pre-deployment phase with useful operational discussions on establishing initial 	<ol style="list-style-type: none"> 1. Due to other commitments, to tackle national forest fires and COVID-19, France decided to mobilize on a Medium USAR format, instead of a Heavy USAR. 2. There was no approval given by the Lebanese authorities for FRA 2 to establish a Reception Departure Centre (RDC) on arrival at the airport as they were fully in control of a system to track international teams arriving. The airport was fully functioning. The team informed the network about it throughout VOSOCC and posted its iridium cell phone number to facilitate other teams' arrival. No phone calls from other teams came through. FRA 2 agree with the idea of a "Virtual" RDC in such cases to ensure that the UCC captures all arriving teams including the Emergency Medical Teams (EMTs). 	<ol style="list-style-type: none"> 1. GRG to review the arrangement capability to clearly note in guidelines that a heavy or medium classified team can engage in a lower category (medium or light respectfully) if requested by the host country. 2. The ERS VO Manager to explore and propose this using the VO platform to register incoming teams and share RDC information in situations where a physical RDC cannot be established, as proposed by France.

	<p>coordination platforms (Reception Departure Centre, UCC) together with Russia, the Netherlands and the INSARAG Secretariat.</p> <p>4. Reception at the airport by a Lebanese Armed Forces Officer was well established (i.e., quick COVID-19 test, list of available sites for teams to establish their Base of Operations (BoO))</p>		
Stakeholders and Functional Areas	Identification of “Good Practices”	Identification of “Areas for Improvement”	Actionable Recommendations
OCHA - INSARAG USAR Coordination Cell (UCC)	<ol style="list-style-type: none"> 1. The long-standing EU Modul Exercises (MODEX) collaboration amongst EU INSARAG teams for their IERs have strengthened this partnership for effective response in an actual disaster. 2. Quick adaption and response to the unprecedented COVID-19 pandemic 3. INSARAG network well-functioning 4. Liaison-function from Lebanese Armed Forces (LAF) was invaluable 	<ol style="list-style-type: none"> 1. Coordination with the authorities was challenging as they had little knowledge of INSARAG and international coordination arrangements. 2. Pandemic testing standard should be improved, and test results should be shared during the early stage of an operation if situation allows. 3. Cooperation with EU and UNDAC teams can be further strengthened with more regular and frequent meetings together in the UCC. 4. Engagement with EMTs was minimal. Liaison function or through the OSOCC Manager will help information sharing. 5. Location of UCC was ordered by LEMA at a secure Navy base. The location and 	<ol style="list-style-type: none"> 1. The Secretariat to consult with INSARAG WGs to develop an information package for the host government of a disaster affected country. 2. The Secretariat to consult with OCHA’s and other UN colleagues in country through our ERS INSARAG/UNDAC RFPs, immediately following a major earthquake, brief the relevant authorities on ERS’s Emergency tools and systems available to support national rescue efforts. 3. Future reviews of the UC, OSOCC and Guidelines to be considered and explained in greater detail on the type of operational information that should be shared between UCC/UNDAC/EU and other stakeholders, for future deployments. 4. OCHA/UNDAC to consider a Liaison Officer representation and offering strategic oversight and guidance in the UCC

	<ol style="list-style-type: none"> 5. Growth of organization after Nepal 2015 6. Seamless transition to BtR phase 7. Efficient setup of a UCC in the absence of an RDC 8. Support offered was needs driven by the authorities 9. Deployment of many teams. 	<p>visibility of UCC shall be easily recognizable. In this instance the location was a little obscure as there was restricted entry to the military harbor, teams at the gate had to find their way to the UCC.</p> <ol style="list-style-type: none"> 6. At this moment teams are trained on UCC course. The UCC will be more effective if team members are specifically trained on functions in the UCC (operations, logistics, planning, information) and can be asked for these specific tasks by the UCC manager. 7. The network is using different platforms to communicate during the operation (VO/ICMS/WhatsApp). Teams need to understand which platform is used for what kind of information to coordinate effectively 8. For the first time LEMA's Liaison Officer was a part of the UCC team. It improves the efficiency and effectiveness of the UCC. This must become a standard and a part of our Guidelines/UC Manual. 9. Both in Nepal and Lebanon classified teams deploy in a non-classified configuration. It is reducing the coordination capability because they don't operate according to the classified standard: Heavy, Medium or Light. 10. During AAR the possibility of specialized UCC teams was discussed. Further discussion amongst TLs is needed. 11. During AAR substandard operations of classified teams were discussed. Further discussion in the ISG and amongst TLs is needed. 	<p>and DACC. Suitable UNDAC members to consider participation in the new DACC WG and UCC courses.</p> <ol style="list-style-type: none"> 5. An RDC to ensure that information on EMTs' operations be taken into account. To support France's suggestion to establish virtual RDC in the absence of a physical RDC. 6. The Secretariat to make available directional flags as signages to lead teams to the UCC. 7. The IMWG to consider improving digital cooperation (ICMS) and engage UNDAC and Joint Environment Unit to link up to the system. 8. The IMWG to discuss with other relevant WGs and to draft an information plan for ICMS/VO/WhatsApp use in the operation. 9. The ERS INSARAG RFPs to work with UN colleagues in the country and leverage on this momentum to boost partnerships and cooperation with Lebanese first responders to strengthen localization. 10. The GRG/TWG to consider the benefit of a LEMA's LO Function in UCC in the Guidelines and the next UC Manual revision 11. The GRG/TWG to consider developing reconfiguration standards, from Heavy to Medium or Light and from Medium to Light. And make this part of the Guidelines and IER checklist. 12. The INSARAG Teams to adhere to INSARAG guidelines and hold deployment once the Government has declared that there is no need for additional USAR teams. The issue of USAR team's perceived noncompliance of operational norms in international deployments and types of follow up actions to be taken on these teams can be tabled at the next ISG and at the TLs' meeting based on experiences from Nepal and Lebanon. National Focal Points are
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<p>OCHA-UNDAC</p>	<ol style="list-style-type: none"> 1. Remote support delivery by MapAction, ACAPS, REACH and OCHA (ROMENA, NY, GVA). 2. Gender Advisor from UN Women embedded in the operations center. 3. Specific coordination structure quickly in place 4. Inter-agency Emergency Operations Cell (EOC) in support of the HC and HCT, led by OCHA, with specific cells for the civil-military, environmental, USAR and assessment and analysis (A&A) coordination 5. ERS response driven by priorities set by HC in Lebanon 6. Full integration with the OCHA Country Office (CO) and surge team and duty of care with regards to team management and safety and security (incl. 	<ol style="list-style-type: none"> 1. Guidance on COVID-19 preparedness and deployment measures be further developed and detailed 2. Relationship between UNDAC-INSARAG and EUCPT be further clarified, based on the Administrative Arrangement and Guidelines for field coordination 3. Specific ToR for UNDAC-UCC liaison function be developed 4. Linkages with experts/networks that are not yet part of existing networks or HCT (e.g., business community, Civil Society Organizations networks) be built. 5. Sector/cluster coordination be complemented with area-based coordination in complex urban environment. 	<p>responsible for ensuring standards compliance and follow up actions on these teams as a first step.</p> <ol style="list-style-type: none"> 1. The OCHA, ERS to prepare a guidance note on COVID-19 preparedness and measures based on mission experience to provide clear instructions to deploying members and partners with regards to ToRs, COVID-19 measures and administrative arrangements. 2. The OCHA, ERS to clarify the relationship with EUCPT in upcoming meetings with EUCPT Working Group and Directorate-General for European Civil Protection and Humanitarian Aid Operations to flesh out the operational details. 3. The Secretariat to consult with WGs to develop INSARAG specific ToRs for UNDAC-UCC liaison function 4. The ERS UNDAC Unit to ensure that a broad range of expertise is deployed with UNDAC Teams to enable engagement in key thematic areas which support a well-coordinated response with all stakeholders and across key issues 5. The ERS to engage and compare with the IASC coordination models that complement the established sector/cluster approach in sudden onset urban environments, which also require area-based coordination specific to differing urban settings and people’s vulnerabilities.

	<p>COVID-19 considerations).</p> <ol style="list-style-type: none"> 7. A&A cell, including with a remote set up, was a key function. 8. Liaison with an UNDAC member with medical background, in constant contact with the Ministry of Health. 9. Deployment of an EMT coordinator by WHO a few days after the explosion. 10. UNDAC members with OCHA CO team in support of the HC be integrated. 11. Mission ToRs take into account the UNDAC team's composition (including partners), which include a diverse range of expertise required to achieve the mission objectives. 		
Stakeholders and Functional Areas	Identification of "Good Practices"	Identification of "Areas for Improvement"	Actionable Recommendations
EU Civil Protection Mechanism (EUCPM),	<ol style="list-style-type: none"> 1. The EU Civil protection Mechanism as a network of interconnected experts and teams with a wide regional dimension 	<ol style="list-style-type: none"> 1. Due to the importance of the DACC's coordination role (engagement of multiple actors and authorities) in the immediate aftermath of an earthquake, or similar type of disaster, the concept should be 	<ol style="list-style-type: none"> 1. The next ISG to discuss the DACC concept, and to take guidance on how the DACC concept could be moved forward. <p>(The EU's initial view is that in order to avoid the proliferation of coordination bodies in disasters and potential risks of overlapping,</p>

<p>The Emergency Response Coordination Centre (ERCC) and the EU Civil Protection Team (EUCPT)</p>	<p>(including the neighborhood).</p> <ol style="list-style-type: none"> 2. Building on previous experiences 3. Coordination and cooperation with the Government of Lebanon, EU Delegation, ECHO Office, OCHA-UNDAC. 4. Needs-based approach in the deployment of USAR teams through EUCPM. 5. Rapid deployment of ERCC Liaison Officers as advanced part of the EU Civil Protection Team. 6. Deployed experts are issued with Personal Protective Equipment (PPE) for protection in a pandemic. 7. No regrets-based deployment of a large EUCPT with wide expertise among the team members (USAR, structural engineering, environmental, waste management, medical, Information Management, Technical Assistance and Support Team - TAST). 8. Good staff collaboration between EU Civil Protection Mechanism 	<p>accommodated under the umbrella of the UN.</p> <ol style="list-style-type: none"> 2. Potential impact of environmental hazards on USAR teams to be better monitored. 3. Rapid deployment of an EUCPT comparing to past activations, particularly under COVID-19, but not sufficiently quick from an USAR perspective. 4. More can be done to ensure deployed expert's protection in a pandemic ensuring that all INSARAG classified USAR teams have procedures in place to detect cases among the staff before departure and provide all the personnel with suitable and adapted PPE. 5. To continue building up on regional crisis management exercises and programs, for example EU programs, with involvement of all authorities. 	<p>even competition, the DACC concept may better fit under the OSOCC.</p> <p>In that regard, UNDAC would need to ensure the staff being supported by other stakeholders, such as USAR structural engineers and specialized NGOs.</p> <p>From the EUCPM side, the EUCPT would be ready to support UNDAC in staffing with a member the DACC who would facilitate the request for and arrival of specialized teams/personnel from the EU/EUCPM. On the other hand, UN OCHA may consider that the DACC is a concept for INSARAG to develop but, in so doing, the AAR highlighted that there is a risk of making heavier the USAR teams with additional tasks or specialization.)</p> <ol style="list-style-type: none"> 2. The USAR teams to consider incorporating in deployments with environmental hazards, at least two personnel with appropriate PPE and equipment for monitoring CBRN risks in the working sites. 3. The EUCPM to mobilize CBRN teams in support to the authorities, the UN and the USAR teams. 4. In line with GA 57/150, Member Countries to agree on facilitating the swift entry of teams into an affected country (and also transiting countries), by providing authorization letters from their respective governments, including COVID-19 testing documents/waivers. 5. The ERS to post relevant information about the pandemic situation and regulations in the affected country on VO. 6. The responding USAR Teams to reinforce, as necessary the medical component of the USAR team in deployments under an outbreak (or pandemic and, perhaps, another type of CBRN event)
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	<p>and OCHA UNDAC and INSARAG networks</p> <ol style="list-style-type: none"> 9. DACC concept well-functioning 10. Response with teams and in-kind assistance linking with funding to address humanitarian needs 11. Good host-nation support and cooperation with the LAF 		<ol style="list-style-type: none"> 7. The ERS (Mission Focal point) to liaise at a very early stage with WHO to support and provide public health expertise in the field. 8. USAR Team Leaders to share timely Information with their members before, during and after mission on team members' wellbeing. <p>For instance, the ERCC can contribute to this, with early dissemination of information and documents amongst the teams and experts mobilized through the EUCPM to make sure the protection of teams and experts is factored in for the deployment as well as sharing pertinent information with the rest of the community on VO.</p> <ol style="list-style-type: none"> 9. The OCHA ERS – EUCPT Working Group to clarify the collective synergies and operational arrangements between the EU Civil Protection Mechanism/Team (EUCPM/EUCPT), with the UCC and UNDAC on the USAR team's mobilization and coordination. 10. To expand ongoing opportunities for cross training of experts in multi stakeholder exercises such as the INSARAG ERE; EU MODEX; EU and UNDAC, INSARAG technical trainings.
Stakeholders and Functional Areas	Identification of “Good Practices”	Identification of “Areas for Improvement”	Actionable Recommendations
Poland, AEME Regional Chair and Polish TL who responded as a Medium	<ol style="list-style-type: none"> 1. Key facilitating role of Polish Embassy for entry. 2. Excellent host nation support provided by Lebanon. 3. Measures to mitigate Covid-19 are in place. 	<ol style="list-style-type: none"> 1. Compliance with assistance requested should be a priority to avoid becoming a burden on the affected country and creating a duplication of assistance offered. There was a clear request to the EU ERCC for a specific number and type of teams including technical search capabilities and search dogs – this must be adhered to. 2. INSARAG community can further develop, 	<ol style="list-style-type: none"> 1. The INSARAG Secretariat to be in close contact with the requesting country and monitor the extent of the request with regards to USAR Teams. When the requested USAR capacity and capability is reached, this will be announced on VO immediately. Teams who have not departed their home country can stand down. 2. The INSARAG Steering Group (ISG) to discuss if and how the INSARAG Secretariat should prevent additional teams from being deployed and keep them on standby or let them

Team	<ol style="list-style-type: none"> 4. Effective usage of the ICMS system. 5. Presence of a UCC member to support the UC operations. 	<p>expand and institutionalize guidance for the DACC. Development and consultations with an endorsement of the methodology is needed as not everyone was familiar with this term and what sort of assistance it provides.</p> <ol style="list-style-type: none"> 3. INSARAG teams to follow INSARAG guidelines and deploy in their classified capacity. Some measure of performance and supervision, and consequences following infringement could be discussed and further enforced on such teams. 	<p>stand down, through the clear messages on VO on behalf of the affected governments.</p> <ol style="list-style-type: none"> 3. The ISG to consider a current or new WG to review the “BtR activities” for teams to consider and prepare what post lifesaving USAR operations they could contribute best to. The draft to be consulted with all USAR Teams to reach consensus in this regard. 4. The INSARAG Secretariat to monitor the USAR capacity being deployed to the emergency (if they correspond to the requested size of USAR Teams and IEC level) and request an official explanation should teams not deploy at a lower capacity than what was declared.
Stakeholders and Functional Areas	Identification of “Good Practices”	Identification of “Areas for Improvement”	Actionable Recommendations
EMERCOM of Russia who responded as a Heavy Team	<ol style="list-style-type: none"> 1. Measures to prevent the spread of Covid-19 2. Deployment of a field hospital 	<ol style="list-style-type: none"> 1. Adequate Hazmat knowledge and equipment to operate in hazardous environment must be secured for everyone: Not only teams should inform UCC and Environmental Cell about hazmat threats, but UCC and Environmental experts should undertake all possible efforts to gain information from the government or other actors before allocating tasks among teams. 	<ol style="list-style-type: none"> 1. LEMA and/or UCC to provide teams with information on Hazmat threats/risks in their respective sectors if this is known, before they start operations on a worksite.
Stakeholders and Functional Areas	Identification of “Good Practices”	Identification of “Areas for Improvement”	Actionable Recommendations
Joint Environment	<ol style="list-style-type: none"> 1. USAR teams as first eyes on the ground 	<ol style="list-style-type: none"> 1. USAR teams as first eyes on the ground 	<ol style="list-style-type: none"> 1. The JEU/UNDAC to continue discussions already initiated with INSARAG on ICMS, strengthening linkages between

Unit (JEU) as part of the UNDAC Team	<ul style="list-style-type: none"> i. Data gathered by USAR teams as part of their operations is a very useful baseline for rapid environmental assessments 2. ICMS Dashboard allows: <ul style="list-style-type: none"> i. Simplified/automatized information sharing between UCC/Environment Cell (reduced reporting burden). ii. Simpler data visualization/mapping. 3. Return on investment for USAR team members trained at Environment and Emergencies Training <ul style="list-style-type: none"> i. Cf. Germany and Italy 	<ul style="list-style-type: none"> i. Opportunity to strengthen collection of vital environmental parameters by USAR teams (more data collected more systematically) 2. Opportunity to expand the use of ICMS to environment (include environmental data collection forms, access to environmental experts) to strengthen synergies 3. Return on investment for USAR team members trained at Environment and Emergencies Training <ul style="list-style-type: none"> i. Strengthened link across flagship trainings (Environmental Emergencies Training - EET & INSARAG) ii. Opportunity for ad-hoc webinars/information sharing sessions to strengthen mutual awareness 	<p>INSARAG, UNDAC and Environment. The follow up work includes:</p> <ul style="list-style-type: none"> a. To expand the quantity and quality of vital environmental data (biohazard/hazmat data and related human health/environmental risks) collected by USAR teams while minimizing reporting burden b. To explore possibilities for environmental experts to use ICMS 2. The JEU to look at invitations for EET once in person, Global Webinar Series, dedicated training/mutual exchange session, likewise for JEU to join USAR trainings
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Session III: INSARAG Coordination and Management System (ICMS)

This session was presented by the following panelists from the Information Management Working Group (IMWG) in all the three regions supporting the response 24/7 remotely:

1. Mr. Jeff Maunder, Co-Chair of the Information Management Working Group (IMWG), INSARAG NZ USAR/DART Task Force 1 (NZL1) UMT Fire and Emergency New Zealand;
2. Mr. Martijn Boer, IMWG member, UCC Beirut member and Coordinator for HQ USAR.NL;
3. Mr. Peter Wolff, Deputy Team Leader THW SEEBA, Co-Chair of IMWG.

The moderator for this session was Mr. Roberto Colangelo, Deputy INSARAG Global Lead, OCHA, Geneva.

Unit/Function	Identification of “Good Practices”	Identification of “Areas for Improvement”	Actionable recommendations
ICMS	<ol style="list-style-type: none"> 1. User friendly system, based on the established INSARAG forms 2. Ability to train teams on the system as they arrived in Beirut 3. Use of Dashboard for a range of operational partners - wider context than USAR operations 4. Establishment of the Public Facing Dashboard for awareness 5. Quality of mapping and shared information. 	<ol style="list-style-type: none"> 1. Formalised Training on the system, including for specific functions of RDC/UCC/SC; especially as the system makes the concept of a ‘Virtual RDC’ a simple process, which would have been valuable in Beirut 2. IMWG Operational Support (IOS) function may provide back office support on request of UCC manager and the criteria and scope of this support should be clearly articulated with tight control to prevent unauthorized or unsanctioned changes. 3. Awareness of the system and its full functionality for all teams 4. Requirement for Resources to be allocated to the Team BoO rather than just a worksite 5. Extension of the system for the use of BtR to include UNDAC, Assessment, DACC 6. There is potential scope to further discussions with other humanitarian partners to leverage on the ICMS system to assist them with relevant humanitarian needs analysis and data. 	<ol style="list-style-type: none"> 1. To confirm and announce the dates of trainings for all three regional groups in consultation with ERS, following IMWG’s announcement that Online training packages will be delivered for the wider INSARAG Network by regions, starting in December 2020. 2. To explore if the CMS can provide a ‘Virtual RDC’, following IMWG’s announcement that further specific training packages will be developed, i.e., Sector Coordination Cell (SCC). 3. To leverage on the ICMS system to strengthen digital cooperation amongst the operational networks and partners.

Session IV: Beyond the Rubble (BtR) - Damage Assessment Coordination Center (DACC)

The speakers of this session were:

1. David Sochor, Chief Rapid Response SDC/SHA, Switzerland;
2. Solveig Thorvaldsdottir, TL of Iceland USAR Team, Icelandic Association for Search and Rescue, UNDAC member and earthquake engineer;
3. Rob Davis, Assistant Chief Fire Officer, Avon Fire Rescue, Team Leader SARAID UK and Vice Chair of Light Team Working/Assurance Group, and;
4. Joshua Macabuag, USAR Engineer Manager, SARAID.

The session was moderated by Martin Evers, INSARAG Operational Focal Points for The Netherlands, Deputy National Commander of USAR.NL and member Guidelines Review Group.

INSARAG is nimble and flexible, which is shown in the work of experts who can assist local governments after USAR life-saving operations. For example, professional structural engineers within the USAR teams can advise on safety and integrity of structures affected by an earthquake or collapsed structure disasters.

BtR started in 2010 and was endorsed in 2017 and is currently included in the Guidelines under a common definition. A DACC is one example of a BtR activity. The presentation stressed that “the purpose of DACC is to support local engineers in their decision-making process and damage data is collected as a byproduct”. Furthermore, the importance to separate these three types of DACC operations has to be taken into account:

1. Providing support to decision-making processes,
2. Collecting damage data based on engineering decisions, and
3. Collecting general damage data.

The DACC in Albania and Beirut strongly supported governments leading the recovery efforts and following the points above. The team flexibly transitioned from UCC/EU/UNDAC working closely with the local government, right up to the handover. In Albania and Beirut, extensive procedures for DACC were developed to support coordination between national and international engineers and local authorities, which can be used as a basis for further development of the DACC concept.

Unit/Function	Identification of “Good Practices”	Identification of “Areas for Improvement”	Actionable recommendations
DACC	<ol style="list-style-type: none"> 1. Lessons from BtR - the Albania and Beirut responses showed flexibility in leveraging qualified assets from the USAR teams i.e., structural engineers were used to continue supporting the authorities, after the international life-saving operations. 2. DACC was established through early engagements 	<ol style="list-style-type: none"> 1. There is an urgent need to develop procedures and take measures to identify USAR team capabilities in a transitional phase to optimize assistance to victims and smoothen the transitional phase itself. 2. Structural engineering capacities can be predetermined prior to the deployment. BtR needs to be requested/coordinated by LEMA with a clear exit strategy for planning a handover. However, BtR is not part of the INSARAG quality standards and, as such, will not determine the structure of the USAR team. BtR discussions need to be developed at regional level. Parallely, INSARAG network should identify clear flexible response 	<ol style="list-style-type: none"> 1. The Secretariat to facilitate the drafting of a concept paper for DACC, with inputs on the ToRs for this WG, to be tabled at the ISG 2021, for consideration. 2. DACC to be established as one of the elements to set up upon arrival and/or proposed to the authorities during the mission.

	<p>with the relevant authorities.</p>	<p>standards, keeping in mind that mandate extension will be limited due to scarce resources.</p> <p>3. The DACC concept and procedures should be better structured for stronger implementation of this specialised international assistance, bearing in mind that DACC vocation is the support of the local authorities on decisions related to damages, which adds an important value for relief and recovery operations. For this to be effective, and coordinated with other operations, then this must be part of an effective overall system of damage assessment, owned by the local authorities. Therefore, the DACC should have 2 objectives: (1) support the local authorities setup their own effective system of damage assessment, (2) coordinate international teams to assist the local authority-led damage assessments.</p> <p>4. Assessments will be always led by local authorities and decisions made by local engineers based on national guidelines for damages assessment need to be respected. SoPs may be suitable for defining the remit/requirements of the DACC and the role of international teams/coordinators to best support the local authorities. While the country-specific procedure for engineering assessment will be determined with the local authorities during respective operations, an organized international support based on well-defined SoPs to conduct engineering assessments can be an added value.</p>	
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Session V: Summary of Key Recommendations and Closing

The Session was moderated by Mr. Martijn Viersma, INSARAG/UNDAC ERS RFP for Europe and CIS. The panelists from previous sessions (namely: David Sochor, Rob Davis, Peter Muller, Peter Wolff, Arjan Stam, Jeff Maunder, Martijn Boer and Juan-Alfonso Lozano-Basanta) summarized the **52 actionable recommendations** as listed in the sessions above for the network and partners to present this at the INSARAG Steering Group Meeting 2021 and for appropriate follow up.

Conclusion

In the Beirut Port Explosion, INSARAG proved the effectiveness and flexibility of its response in supporting the local authorities in a pandemic environment. INSARAG teams and partners responded rapidly and seamlessly integrated with the affected government's response, despite the particularly challenging operating environment.

During this mission the ICMS (which was used for the first time), the UCC (which was deployed for the second time after the Nepal Earthquake in 2015), and DACC (which was deployed for the first time led by EUCPT and UNDAC in support of the Albanian authorities in the Durrës earthquake of 2019) proved to be effective for strengthening analysis of data gathered on the ground and for better coordination of teams, with far wider potential to support the broader humanitarian response.

Ambassador Bessler addressed the important issue raised by various participants of the 'inappropriate International Response Conduct of INSARAG teams', and especially those teams that did not respond at the level that they were classified and/or responded after the government's request for more international teams closed. This is an important and pertinent issue, that will be discussed with the INSARAG Regional Chairs at the New Year Call on 27 of January 2021 and addressed at the INSARAG Steering Group in May 2021.

The lessons, good practices and recommendations from this mission will be used to strengthen the INSARAG Guidelines and response arrangements with our partners. The strong commitment and support from all the teams and relevant organizations, will result in strengthening the coordination and effectiveness of international urban search and rescue assistance.

Drafted by the INSARAG Secretariat with guidance and inputs from all session moderators and presenters. V 18 December 2020