INSARAG AFTER ACTION REVIEW

2023 Türkiye and Syria Earthquakes

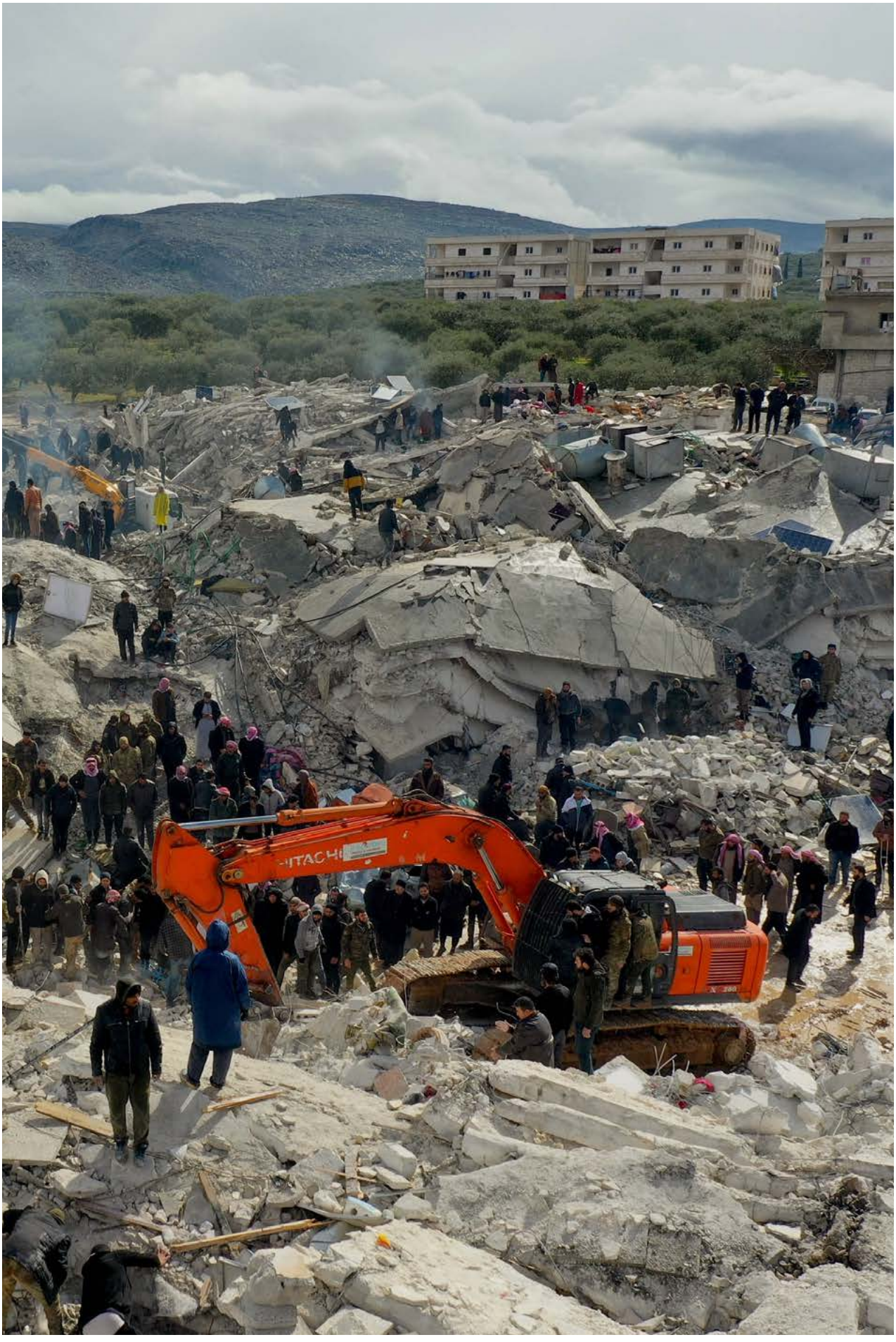
A Comprehensive Report of INSARAG's Largest International Search and Rescue Operation

INSARAG
Preparedness Response

Dedicated to the brave search and rescue personnel who answered the call during the 2023 Turkey and Syria earthquakes. In honor of the victims, survivors, and all those affected – may their strength and resilience inspire hope for the future.

This publication was made possible through the
support of the the Internal Security Force, Lekhwiya
Qatar International Search and Rescue Group

دولـــة قطـــر
State of Qatar


HITACHI

Writing and Editing
Daniel Eike, INSARAG Secretariat

Oversight and Supervision
Winston Chang, OCHA ERS

Design and Layout
OCHA Design and Multimedia Unit

AAA & R Report Content
Solveig Thorvadsdottir, Andrea Bartolucci

Section 4
Türkiye Disaster and Emergency Management Presidency (AFAD)

Peer Review
INSARAG Working Group Chairs and Co-Chairs, AFAD, Qatar International Search and Rescue Group, OCHA ERS

Special thanks to AFAD for their leadership during the response and to their inputs to this publication.

Table of contents


AFAD
AFAD
AFAD
AFAD
AFAD

Acronyms

AAA & R	After-Action Analysis and Recommendations
AAR	After Action Review
AEME	Africa, Europe, Middle East
AFAD	Türkiye Disaster and Emergency Management Presidency
ASR	Assessment, Search, and Rescue
BoO	Base of Operations
EMT	Emergency Medical Team
ERE	Earthquake Response Exercise
ERS	Emergency Response Section
EUCPT	European Union Civil Protection Team
FRWG	Flood Response Working Group
GDACS	Global Disaster Alert and Coordination System
GIS	Geographic Information System
GPS	Global Position System
GIS	Guidelines Review Group
GPS	Global Position System
GRG	Guidelines Review Group
ICMS	INSARAG Coordination Management System
IEC/R	Geographic Information System
IMWG	Information Management Working Group
INSARAG	The International Search and Rescue Advisory Group
ISG	INSARAG Steering Group
LEMA	Local Emergency Management Authority
LO	(UNDAC) Liaison Officer
MODEX	Module Exercises
MWG	Medical Working Group
NCBWG	National Capacity Building Working Group
NGO	Non-governmental Organization
NDEMC	National Disaster Emergency Management Center
OSOCC	On-Site Operations Coordination Centre
RC/HC	Resident Coordinator/Humanitarian Coordinator
RDC	Reception and Departure Centre
RFP	Regional Focal Point
RSB	Response Support Branch
SCC	Sector Coordination Cell
TL	Team Leader
TWG	Training Working Group
UC	USAR Coordination
UCC	USAR Coordination Cell
UN	United Nations
UN OCHA	United Nations Office for Coordination of Humanitarian Affairs
UNDAC	United Nations Disaster Assessment and Coordination
USAR	Urban Search and Rescue
VO or VOSOCC	Virtual On-Site Operations Coordination Centre

Section 1: Forewords and Introduction

AAR Foreword: AFAD

On behalf of the Turkish Disaster and Emergency Management Authority (AFAD), it my honor and a solemn duty to introduce this After-Action Review of INSARAG's response to the February 2023 earthquakes that struck my beloved nation. This natural disaster was the most destructive event

Author: Mr. Okay Memis,
Governor, President of AFAD of Türkiye

to affect Türkiye in the modern era. Its memory will undoubtedly endure generations to come. For this reason, it is critical that we now reflect upon the humanitarian response that unfolded in its aftermath and offer praise and thanks to all who supported and provided aid.

This unprecedented disaster tested the resilience of our people, our infrastructure, and our response systems. It devastated key infrastructure, including critical lifelines such as roads, bridges, and hospitals. To compound the difficulties, severe winter weather added a layer of complexity to the response efforts, making access to affected areas even more treacherous and demanding. Thousands of international rescuers joined the Turkish people to endure these tireless conditions and save hundreds of lives.

I want to take this opportunity to personally thank the INSARAG network and all its constituent individuals, organizations, and governments who joined together to enable a swift and efficient response to assist our nation in its time of need. These efforts embody the true spirit of INSARAG. We at AFAD are proud and grateful to be an integral part of this global network of USAR professionals.

INSARAG is a driving force in the humanitarian community. Their efforts over the past thirty years to build a standardized framework for coordination, assessment, and deployment of teams, ensures that assistance reaches those in need as swiftly and efficiently as possible—as was the case in February. The benefits of being a member of INSARAG are manifold. Not only does it enhance a country's preparedness and response capabilities, but it also fosters a sense of global community and shared responsibility. AFAD's integration in INSARAG enabled the rapid decision to make the call for international assistance. The ensuing international response and outpouring of global support for Türkiye demonstrates the power of solidarity and efficacy of international coordination systems developed by INSARAG and OCHA.

While international assistance was invaluable, we also realized the significance of building local capacity and expertise. A strong foundation at the grassroots level ensures that communities can respond effectively to disasters, even before external support arrives. INSARAG's emphasis on training and capacity-building aligns perfectly with this goal, empowering nations to take ownership of their disaster response efforts.

This After-Action Review serves as both a record of our experiences and a roadmap for the future. I rest assured that the lessons learned from the operation in Türkiye will bolster INSARAG's preparedness should a similar disaster affect any other nation in the future. Together, we can continue to build a more resilient world, where nations stand ready to support one another in times of crisis, and where the strength of humanity shines brightest when we unite for a common purpose.

AFAD
REPUBLIC OF TÜRKİYE
MINISTRY OF INTERIOR
DISASTER AND EMERGENCY
MANAGEMENT AUTHORITY

AAR Foreword: Qatar

Author: Col. Mubarak Sherida Al Kaabi,
Qatar International Search and Rescue Group

In the wake of the February 2023 earthquakes that struck Türkiye and Syria, we, the Qatar International Search and Rescue Group, find ourselves at the center of a critical juncture. As the hosts of the After-Action Review (AAR) forum in October 2023 and the current regional chair of INSARAG in the Africa, Europe, and Middle East (AEME) region, we are both proud and humbled to be involved in this collective effort.

This book documents INSARAG's massive search and rescue response to the 2023 earthquakes. It is through this book that we will capture the key lessons learned from this experience and grow together as a network. This is an essential milestone in the history of INSARAG and a turning point for the future.

We are proud to be an integral part of the INSARAG community—a community that is deeply committed to humanitarian principles and providing assistance to all those in need, regardless of color, religion, culture, or language. This collective goal is rooted in the trust and confidence extended to us by our fellow member states and organizations. We undertake the responsibility of hosting October's AAR with a sincere dedication to facilitating a comprehensive and constructive review of the earthquake response.

The international response efforts in Türkiye and Syria demonstrated the power of global solidarity and community. In the face of adversity and suffering, the international community rallied together to provide vital assistance to the affected populations. This shared purpose transcended nationality and background, serving as a powerful reminder of our common humanity.

For these reasons, we are delighted to host and sponsor the October 2023 AAR meeting, as well as the creation of and publishing of this key document that will permanently store the lessons, stories, and recommendations that have arisen from the February deployments. We are hopeful that our efforts to reflect upon the experience in Türkiye and Syria will elevate the INSARAG network and transform the way that we respond to future disasters.

This network is a strong and dynamic community with a shared humanitarian purpose. We are committed to improving and reinforcing our systems to propel us into the future. Let us embrace the lessons drawn from the February 2023 earthquakes and the remarkable global solidarity that defined our response. Together, we can continue making a meaningful difference in the lives of disaster-affected communities, forging a future that is better prepared, more resilient, and deeply compassionate.

AAR Foreword: INSARAG Global Chair

Author: Amb. Dominik Stillhart
Deputy Director General of Swiss Agency for Development and Cooperation, Incoming INSARAG Global Chair

The earthquake that struck on February 6, 2023, in the southeastern region of Türkiye and northwest of Syria was the most devastating since the earthquake in Haiti 2010. Over 59'000 individuals lost their lives and 1.5 million people were left homeless. While these numbers are staggering, they cannot express the profound shock and enduring trauma experienced by the survivors, their families, friends, and the entire nations of Türkiye and Syria.

The immediate call for international assistance by the Government of Türkiye triggered the largest Urban Search and Rescue response since INSARAG's foundation more than 30 years ago. Teams from over 90 countries, 49 of which were INSARAG classified teams, worked tirelessly alongside local and national responders. Together, we rescued more than 300 lives from the rubble.

This unprecedented response was a strong sign of international solidarity with the people affected by this natural disaster. It was made possible thanks to the strong quality standards of INSARAG and its member states, who have continuously invested into their capacities for rapid deployment. I have no doubt that the work of INSARAG and its member states remains as important and relevant as it was three decades ago.

Experiences like these always illuminate areas where we can further improve. It is now crucial to translate the lessons we learned from the operations in Türkiye and Syria into concrete measures as quickly as possible. This is why I very much welcome the initiative of the INSARAG Secretariat to organize a global After Action Review in Qatar in October 2023.

With the aim of sustainable development, INSARAG has already placed a strong emphasis on quality standards, localization, flexible response and partnerships in its strategic plan for 2021-2026. At the heart of this approach lies our unwavering commitment to making the greatest possible impact: saving as many lives as we can. Achieving this goal hinges on efficient international coordination and closer collaboration among national, international, INSARAG-classified, and non-classified teams. The initial hours following an earthquake are undeniably critical. Therefore, investments in local capacities and preparedness are elements that I consider particularly important.

I am looking forward to seeing what we can learn from the operations in Türkiye and Syria and how we can implement these lessons within our network. The INSARAG response following the devastating earthquake of February 6 can be considered successful. But while every saved life brings joy, it is equally heartbreaking for the families of those who could not be saved. Therefore, our collective goal should always be to continually learn, improve, invest and enhance our efficiency to save even more lives. I am convinced that INSARAG will demonstrate the determination and ability to adapt and evolve, just as the network has repeatedly proven in the past.

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development and Cooperation SDC

INSARAG
Preparedness Response

AAR Foreword: UN HC/RC

Author: Mr. Alvaro Rodriguez,
UN Resident and Humanitarian Coordinator for Türkiye

In the annals of humanitarian response, there are moments that define our collective commitment to alleviate suffering, rebuild lives, and foster resilience. This book stands as a testament to one such defining juncture—the INSARAG deployments to Türkiye and Syria following the devastating February 2023 earthquakes.

This volume chronicles the robust International Search and Rescue Advisory Group (INSARAG) Network. The narrative that unfolds bears witness to the importance of coordination and international collaboration during emergencies, and the indispensable role played by OCHA and United Nations Disaster Assessment and Coordination (UNDAC).

As the UN Resident Coordinator for Türkiye, I witnessed firsthand the incredible devastation and tragic consequences of the disaster. In visiting the affected areas, I was struck by the tireless efforts of the rescuers on the ground—working day and night in challenging conditions to pull people from the rubble. The extraordinary international response effort to this disaster was a true showing of global solidarity. Most importantly though, I witnessed the incredible resilience and fortitude of the Turkish people as well as national search and rescue efforts in the darkest of times.

The aftermath of the disaster, as detailed in these pages, presents a stark portrait of devastation, but it also highlights a narrative of hope and resilience etched into the fabric of communities grappling to reclaim their lives. With profound gratitude, I commend the relentless efforts of the national and international rescuers—the heroes who labored tirelessly to augment the search and rescue endeavor led by AFAD. The synergy witnessed between INSARAG and AFAD exemplifies the blueprint for effective collaboration in disaster-prone regions, a model to be mirrored globally.

The agility, speed, and efficiency of the response are testaments to the value of effective partnerships and thorough preparation. This response bridged continents and cultures, binding our shared humanity with threads of compassion and solidarity. The resulting intervention stands as a beacon of hope, a reminder that in times of adversity, we are stronger together.

We must appreciate these accounts of heroism and resolve, but we must also consider the lessons learned. The earthquakes that shook Türkiye and Syria serve as a call to action, compelling us to invest in disaster preparedness, response, and recovery. Through these stories of hardship and triumph, we are reminded that our commitment to building resilient communities is an ongoing, unyielding endeavor. I am confident that the lessons learned from this event will further strengthen the INSARAG network and bolster its preparation in the face of future disasters.

The efforts of the INSARAG network, encapsulated in this book, are a shining success story in a sector that far too often suffers undue criticism due to its inherent complexities. Organizations like INSARAG truly make this world a better place. As you absorb the contents of this book, I encourage you to deeply consider the value of collaboration, the significance of preparedness, and the clear fact that coordination saves lives.

United Nations

AAR Foreword: OCHA CD Director

Author: Mr. Ramesh Rajasingham,
Head and Representative of OCHA Geneva and Director of Coordination Division

The February 2023 earthquakes in Türkiye and Syria were a defining moment for the International Search and Rescue Advisory Group (INSARAG). The extraordinary response, which stands as the most extensive international search and rescue operation in history, firmly solidifies INSARAG's indispensable role within the United Nations Office for the Coordination of Humanitarian Affairs (OCHA). This network exemplifies global cooperation and the humanitarian spirit that lies at the core of OCHA's mandate.

This AAR report reflects upon and dissects INSARAG's deployments to Türkiye and Syria, with the goal of improving USAR responses in the future. Let us remember that hindsight is a powerful teacher, and our shared commitment to progress is unwavering.

In the aftermath of the initial earthquakes, INSARAG mobilized 49 classified USAR teams, with many arriving within 24 hours of the call for international assistance. This remarkable feat demonstrates years of meticulous preparation from the network. Rescuers from across the globe joined thousands of local volunteers in a race against time to save hundreds of lives and reunite desperate families.

Leadership and coordination from AFAD and rapid activation of OCHA's tools and sercvices to support and strengthen the coordination with our partners were instrumental in orchestrating this endeavor. INSARAG's longstanding partnership with AFAD enabled the efficiency of the international response in Türkiye, serving as a pivotal lesson for the future direction of INSARAG, emphasizing that partnerships and collaboration are paramount to the success of a life-saving operation. OCHA is committed to supporting INSARAG in forging these partnerships and ensuring the accessibility of its portfolio of toolkits and services to disaster-prone governments worldwide. While we should certainly celebrate the achievements of this response, the challenges faced throughout the operation demand a thorough analysis to ensure that we learn from experience. In particular, the challenges faced in Syria serve as a sobering reminder of the complex nature of disaster response, highlighting the necessity of exploring INSARAG's role in complex emergencies where communities are even more vulnerable.

As local responders are the first on the ground in any emergency, INSARAG's localization tools such as INSARAG Recognized National Accreditation Process (IRNAP) and Community Responders Package are vital for preparedness in disaster-prone regions. I urge INSARAG's working groups to further develop these tools and make them as widely accessible as possible to the populations that depend on them.

This juncture signifies a pivotal moment for INSARAG. The AAR, combined with a detailed review of the INSARAG guidelines, will allow further refinement of the systems and methodologies that have been developed by this network over the past thirty years. While the development of the INSARAG network since its inception in 1991 has been impressive, there is ample room for growth. By sharing lessons learned and harnessing modern solutions, we can ensure accountability for affected populations and support our member state governments in times of crisis. INSARAG is indispensable and has demonstrated its capacity to foster cooperation and trust amongst first responders, communities, organizations, and governments. INSARAG's strength lies in the diversity and dedication of its members, who consistently share best practices across the globe.

To my colleagues at OCHA and the INSARAG Secretariat, I extend my sincere gratitude for your exceptional work in organizing and facilitating this AAR. Your knowledge, expertise, and dedication to humanitarianism is indispensable to the success of INSARAG and our shared mission. Let us remember that, together, we possess the power to create a more resilient and compassionate world.

OCHA

Introduction

This publication seeks to commemorate the outstanding efforts of the INSARAG Network and to recall the events of its response to the 2023 Türkiye and Syria Earthquakes. It further seeks to present

the primary recommendations put forward by the INSARAG Network following its months-long after-action review (AAR), which culminated in a 2-day global AAR meeting on the USAR response and hosted by the INSARAG Africa, Europe and Middle East Regional Chair 2024, in Doha, Qatar on 17-18 October 2023.

On 6 February 2023, at 04:17 local time, a magnitude 7.8 earthquake rumbled across southern and central Türkiye and northwestern Syria. Its epicenter was just 37km from the city of Gaziantep—a population center of more than 2 million people. A little over 9 hours later, at 13:24, a 7.7 magnitude earthquake struck 95km north of the first. The destructive force from the two earthquakes caused widespread damage across 350,000km2, an area about the size of Germany. In total, 59,259 people tragically lost their lives—50,783 in Türkiye and 8,476 in Syria. An estimated 1.5 million people were left homeless and approximately 16% of Türkiye's population was directly affected by this disaster. The earthquakes were the deadliest natural disaster in Türkiye's modern history and the deadliest worldwide since the 2010 Haiti earthquake.

The level of grief assumed by the Turkish and Syrian people can never be quantified by the number of fatalities or dollar estimates of damages. At the time of writing, more than nine months since the earthquakes, large swaths of Türkiye's cities remain piles of rubble. Cleanup efforts are still ongoing. Thousands of people continue residing in temporary shelters across the affected area. As the attention of world media outlets shift to other emergencies, the people and governments of Türkiye and Syria continue to manage the consequences of these earthquakes and will continue doing so for years to come. This publication is written in full recognition of the solemn outcomes of this horrific disaster—the burden and grief forever carried by the affected population, the mourning of those who lost loved ones, the millions who faced or are still facing displacement, and the immense damages sustained across both countries.

The INSARAG network played a pivotal role in the response effort in the initial days after the earthquakes. Following the call for international assistance from Türkiye's Disaster and Emergency Management Authority (AFAD), USAR teams from across the globe started pouring into Türkiye. At the peak of USAR operations, 199 international rescue teams were deployed to the field, of which 49 were INSARAG classified. 11320 search and rescue personnel and 306 search dogs augmented the nationally led search and rescue response. In total, 300 lives were saved by these efforts. The solidarity between nations enabling a global response of this scale was unprecedented.

In addition to 49 INSARAG classified teams, numerous non-classified teams joined in the search and rescue effort. INSARAG's UCC coordinated the activities of 118 of these teams. The differentiating

factor between INSARAG classified teams and non-classified teams lies in their heightened level of professionalism, acquired through standardized training, adherence to common operating procedures, seamless coordination facilitated by OCHA/INSARAG from mobilization

to demobilization, and the consistent utilization of INSARAG's information management systems.

The Türkiye and Syria earthquakes are a defining moment for INSARAG, ushering in a new era of growth for the network. International USAR teams operating in accordance with the globally accepted INSARAG guidelines and methodology played a crucial role in providing lifesaving services to those affected by this unprecedented disaster. This event underscores INSARAG's unique and extremely valuable role in response and highlights the key areas where it must evolve and adapt to better serve this role in the future.

An oft-overheard term during the global AAR meeting in October 2023, described the 2023 Türkiye-Syria Earthquakes as a "black swan event" for INSARAG. While this phrase accurately captures

the unexpected nature and grave consequences of the earthquakes, it fails to highlight the opportunity for this event to serve as a catalyst of growth and improvement to INSARAG's systems. As a network, INSARAG is committed to forging its path forward, staying fit for purpose, and remaining accountable to affected populations. As humanitarians, we must learn and grow with every response.

This moment represents a critical juncture, where the INSARAG network underwent a proper litmus test. The INSARAG system worked. It swiftly mobilized thousands of well-trained search and rescue personnel from around the world and coordinated their response under common systems, resulting in many lives saved. But this does not distract from the need to capture the lessons learned from this event to further bolster preparedness for the next disaster. In the months following the earthquakes, the INSARAG network, its team leaders and constituent working groups, and the INSARAG Secretariat worked to capture these lessons and generate recommendations for the future of INSARAG. This document will not delve into all these recommendations, but it will highlight the primary outcomes from the extensive AAR and pinpoint the areas upon which INSARAG must prioritize in the years to come.

It is with our joint intention that these recommendations are implemented, and their progress monitored. For these changes will determine the future direction of INSARAG. The lessons learned from this tragedy will guide the network's continuous journey towards enhanced preparedness, ensuring it remains a beacon of hope and support for communities affected by disasters worldwide.

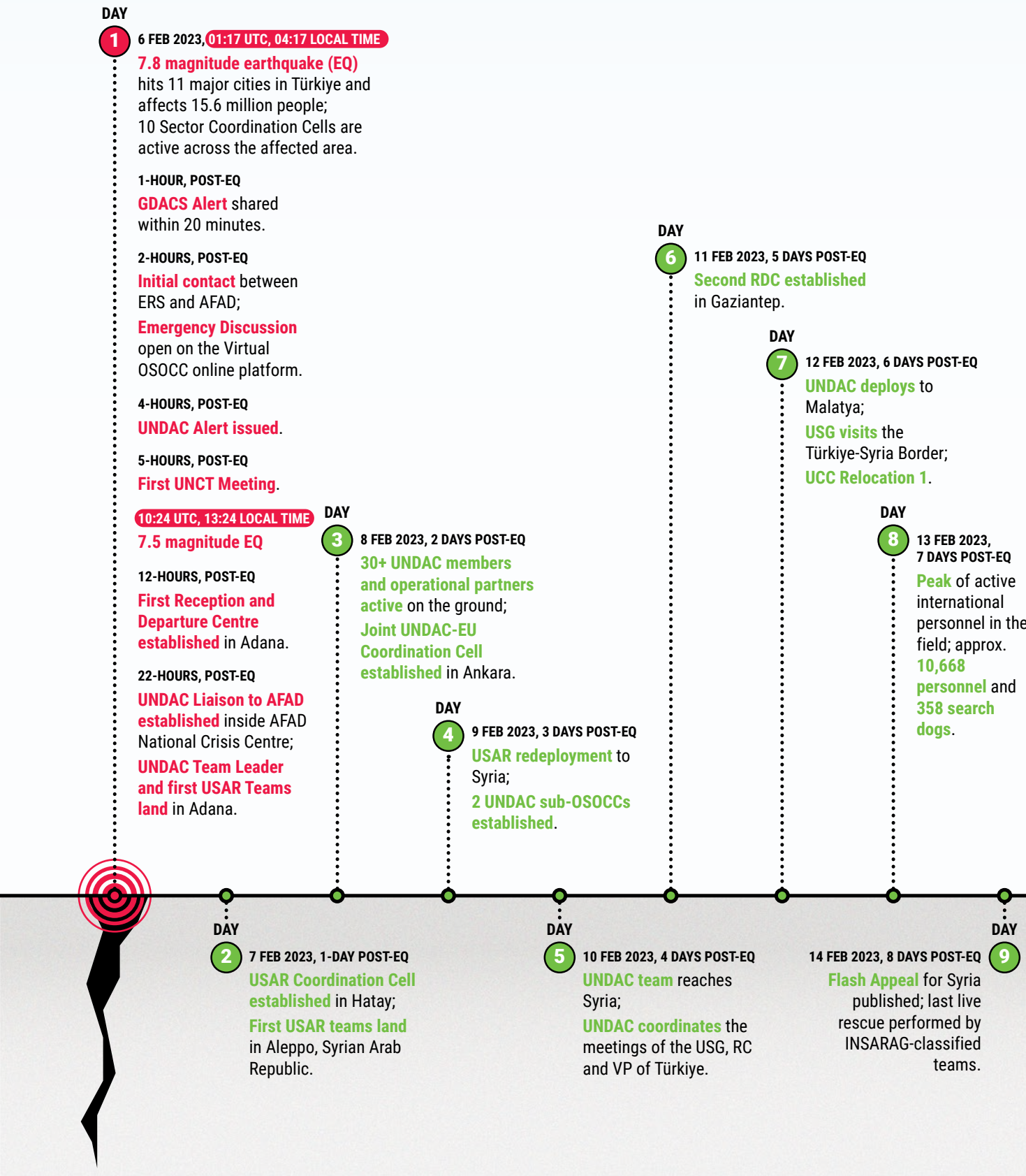
Section 2: Response Narrative and Timeline

“Our prayer is that neither our country nor any other country in the world will face disasters like the one occurred on February 6. We do not want anyone else to go through what we experienced.”

Turkish President President of Türkiye

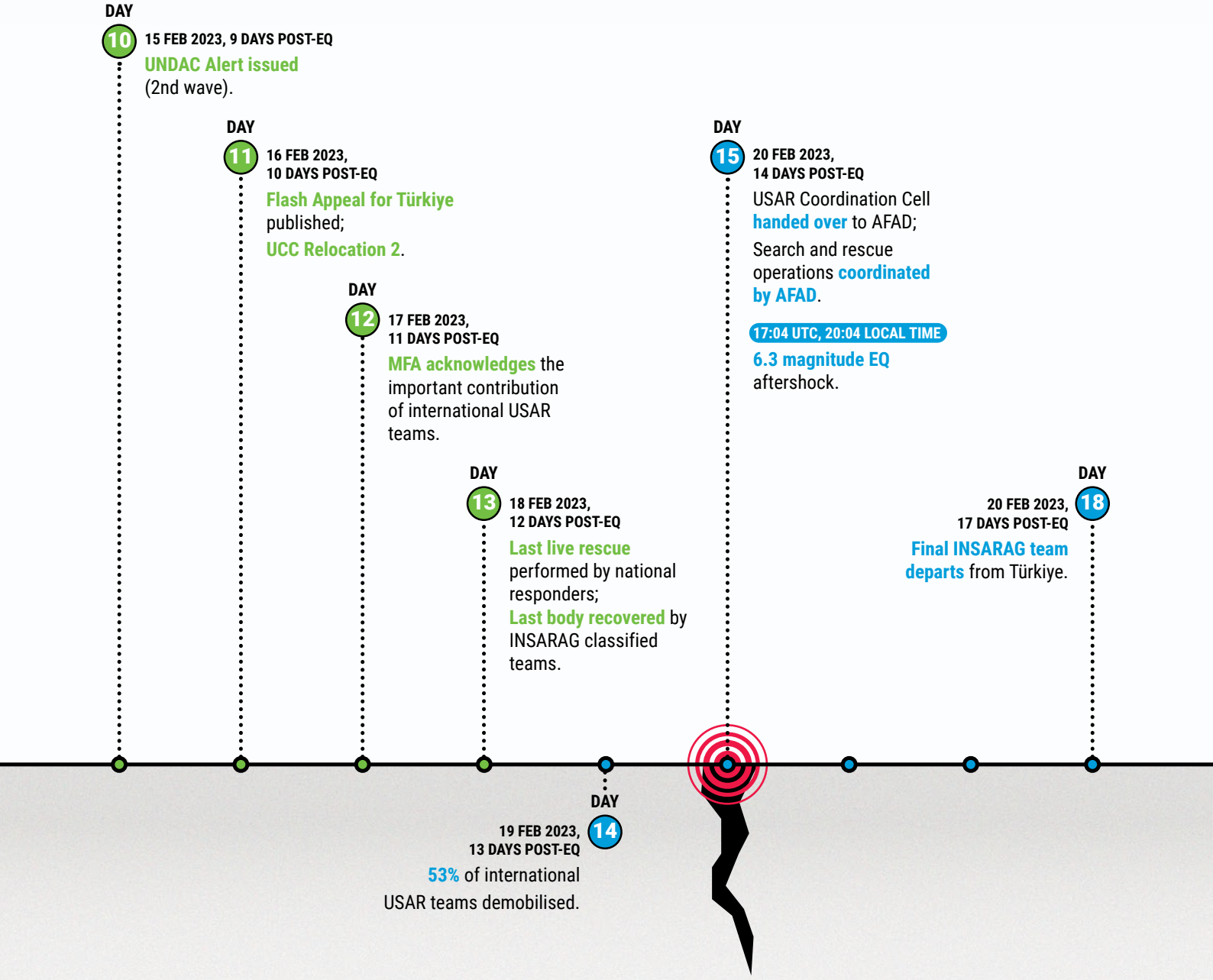
Türkiye and Syria Earthquakes » USAR Phase » Timeline and Key Milestones

Mobilisation Operations Demobilisation



300 LIVES

saved by INSARAG classified teams and other INSARAG-managed international teams



2.1 Background and Preparedness

2.1.1 Background

Established in 1991, the International Search and Rescue Advisory Group (INSARAG) is a global network of more than 90 member states and organizations from around the world. The group aims to create quality standards, training, and coordination systems for urban search and rescue (USAR) teams to improve the coordination, effectiveness, and efficiency of urban search and rescue operations, in response to natural disasters and other emergencies, particularly in response to collapsed structure emergencies such as earthquakes.

The INSARAG External Classification (IEC) system, a peer review system to assess and the capabilities and capacities, ensures adherence of USAR teams to a standardized methodology during deployment. IEC teams that deploy internationally are expected to comply with INSARAG's guidelines and coordination systems. 64 teams have been classified under this system to date. These teams have deployed to numerous emergencies and earthquakes requiring international assistance, from Armenia in 1988 to major earthquakes and tsunamis such as the Indian Ocean Tsunami in 2004, the Pakistan earthquake in 2005, Haiti in 2010, Christchurch, New Zealand in 2011, Tohoku Earthquake and Tsunami in Japan in 2011, the Nepal earthquake in 2015, the 2020 Beirut Port Explosion, among others. Following the 2023 Türkiye-Syria earthquakes, 49 IEC teams deployed to provide search and rescue assistance.

The INSARAG Secretariat is the administrative and coordinating body that supports the activities of the wider network. It is housed within the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) in Geneva, Switzerland. The Secretariat plays a crucial role in facilitating communication, collaboration, and coordination between INSARAG's global stakeholders.

UN General Assembly Resolution 57/150 (2003), "Strengthening the Effectiveness and Coordination of International Urban Search and Rescue Assistance" provides the framework for and guides INSARAG's activities. Though 20 years old, the resolution remains ever-relevant, as demonstrated by INSARAG's response to Türkiye and Syria.

> **"…all States that have the capacity to provide international urban search and rescue assistance to take the necessary measures to ensure that international urban search and rescue teams under their responsibility are deployed and operate in accordance with internationally developed standards as specified in the Guidelines of the International Search and Rescue Advisory Group, particularly concerning timely deployment, self-sufficiency, training, operating procedures and equipment, and cultural awareness"**
>
> UN General Assembly Resolution 57/150

2.1.2 Preparation

Türkiye is one of the most seismically active countries in the world due to the interaction of three major tectonic plates and has a long history of devastating earthquakes. Following two consecutive destructive earthquakes in 1999, Türkiye began building up its response capacities to collapsed structure emergencies. Since then, the country boasts some of the most robust national disaster response capacities in the world, with its state-run Disaster and Emergency Management Presidency (AFAD) and several civil society organizations leading the charge.

Despite this, the size and power of the earthquakes which ripped across the country on 6 February 2023 were unprecedented. The destruction and breadth of the affected area was overwhelming. In the hours following the event, the Turkish government issued a level 4 appeal for international assistance, illustrating the great severity of the disaster. INSARAG teams were put to the task of augmenting the nationally led and coordinated response. Thankfully, the integration of Türkiye's national disaster response system with INSARAG and the strong partnership between its focal points and the INSARAG Secretariat enabled a swifter and more effective international response.

Long prior to 6 February, Türkiye had become an integral part of the INSARAG family. Türkiye currently has four INSARAG classified USAR teams—two AFAD teams and two NGO teams (AKUT and GEA). In the preceding year, Türkiye held the Regional Chairmanship for the Africa, Europe, and Middle East (AEME) Region, as well as an annual Earthquake Response Exercise in the country.

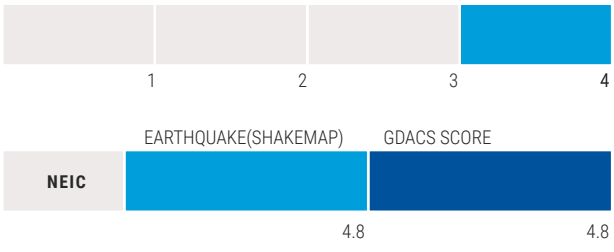
2.2 The Call for Assistance (Mobilization)

"The first 72 hours after a disaster are critical" wrote UN Under Secretary General for Humanitarian Affairs and Emergency Relief Coordinator, Martin Griffiths. It is within this short "golden window" that survivors have the best chances of being rescued during a collapsed-structure emergency. INSARAG teams are well trained on this principle. They are trained and equipped to rapidly mobilize to a disaster zone anywhere in the world and when given a "go" by the affected government.

2.2.1 Initial Alert

An automated GDACS Alert was issued 23 minutes after the initial 7.8M earthquake struck in the early hours of the morning of 6 February 2023. The alert was the first news to the global disaster response community of the grim reality of what had just occurred. The alert earned a GDACS Score of 4.8, indicating widespread devastation and loss of life.

Figure 1: GDACS score of the inial 7.8M earthquake
(Source: GDACS)

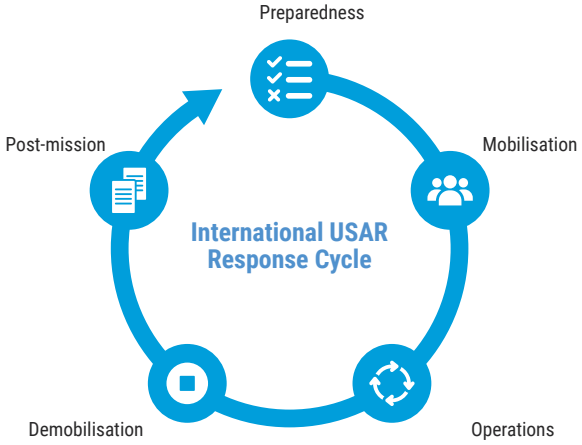


Two hours following the initial earthquake, AFAD's focal point called the INSARAG Secretariat to explain the circumstances and request immediate international USAR assistance. The request was initially made for the deployment of heavy and medium USAR teams, as well as an UNDAC team. No limitations or decided number of teams was indicated at this point. Furthermore, AFAD's focal point explained that entry points to the affected area were the Malatya and Adana airports and that ten provinces were impacted: Malatya, Hatay, Kahramanmaras, Adıyaman, Osmaniye, Diyarbakır, Sanliurfa, Gaziantep, Kilis, and Adana.

As a longstanding member of the INSARAG network, AFAD's close relationship with INSARAG was pivotal in enabling such swift action. This prompted the activation of INSARAG's information management systems, and for swift notification of INSARAG teams around the globe of the ongoing emergency in Türkiye. An emergency discussion was opened on the VOSOCC online platform. Teams were then able to indicate their status as "monitoring," "mobilizing," or "deploying" to Türkiye. Shortly thereafter, an UNDAC alert was issued to its members. INSARAG teams around the world became aware of the situation and began mobilization procedures. Soon thereafter, a second 7.5M earthquake struck 95km to the north of the first.

"They [AFAD] are partners, so the collaboration was really outstanding, and AFAD did an amazing job in its first response. The Turkish authorities did an amazing job in providing leadership and opening up the space for all these other teams to come and work effectively."
Ramesh Rajasingham, UN OCHA Coordination Division Director

Figure 2: International USAR Response Cycle
(Source: INSARAG)



The situation was dire. The affected area of both earthquakes spanned 350,000km2 across Türkiye and Syria. Türkiye's Ministry of Environment, Urbanization and Climate Change later estimated that 164,000 buildings were destroyed or severely damaged. 15.6 million people were affected across 11 major cities in Türkiye alone. To hamper things further, the earthquakes severely damaged several key roads, effectively cutting off ground access to several affected areas.

Figure 3: Map of affected area in Türkiye (Source: Map Action)

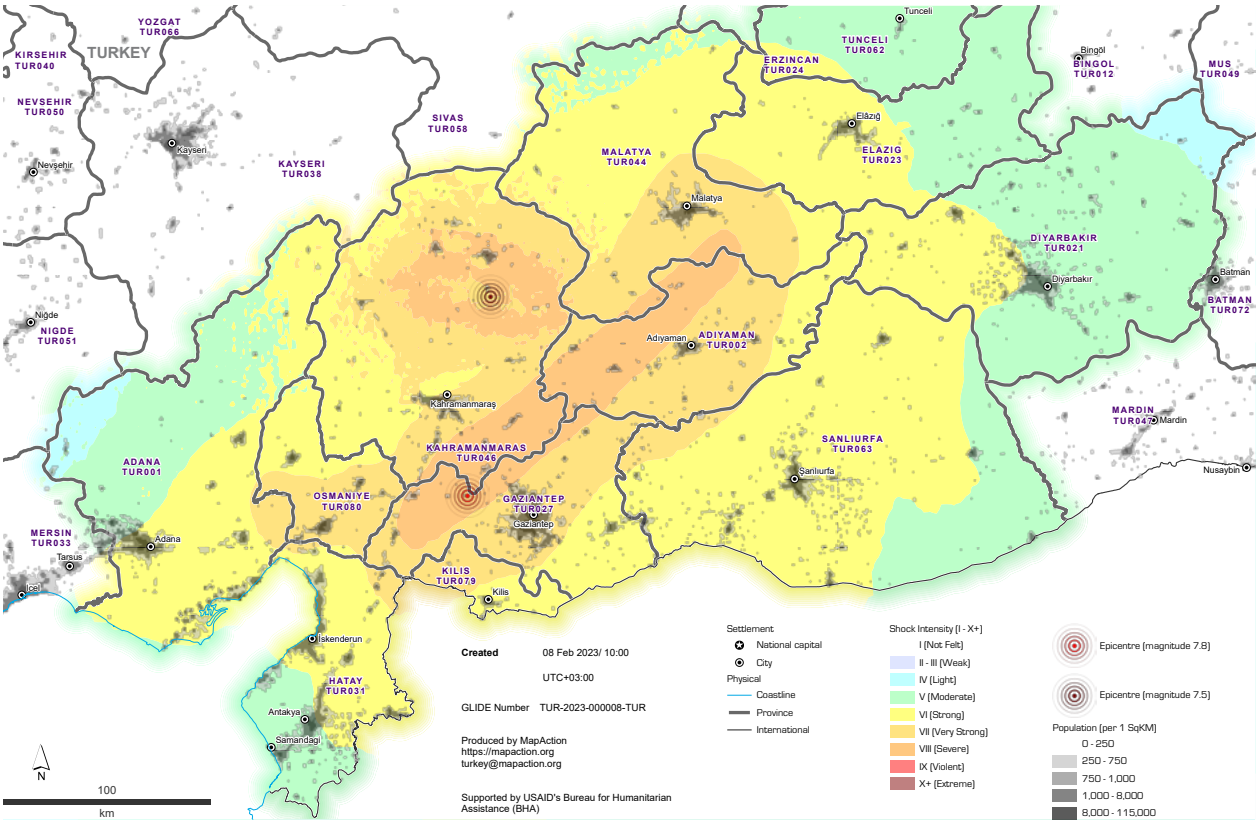
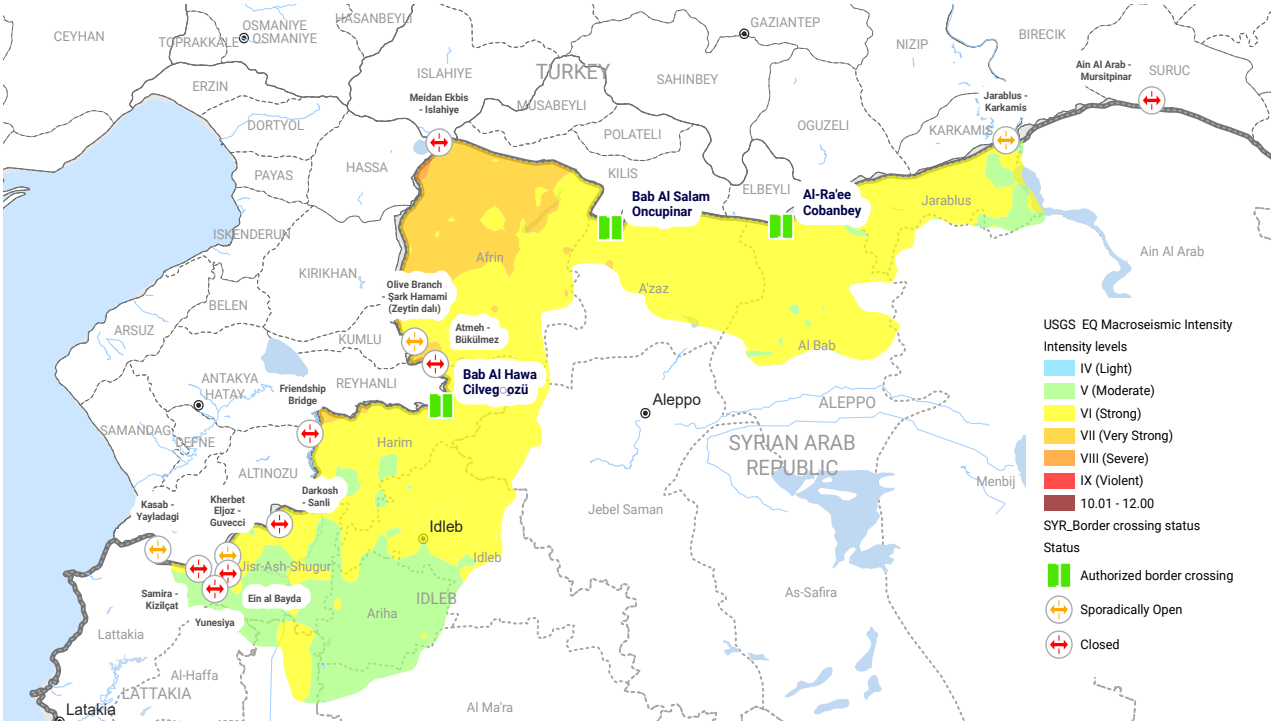


Figure 4: Map of affected area in Syria (Source: OCHA)



In neighboring Syria, 10,600 buildings partially or fully collapsed. The humanitarian situation there was already dire, as an estimated 4.1 million people already relied on humanitarian assistance at the time of the earthquakes. The ongoing civil conflict in Syria further rendered this a particularly complex setting for international response, with much of the affected area in under opposition control.

2.2.2 Establishment of Adana RDC

Back in Türkiye, three members of Swiss Rescue (SUI01) already happened to be on the ground and thus were the first to establish an INSARAG Reception and Departure Center (RDC) in the Adana Airport, approximately 12 hours after the first earthquake occurred. The Adana RDC was crucial for the first arriving teams, with 65 teams registering there in the first phase of operations. The RDC is designed to register incoming teams and monitor where they go, but not to direct or coordinate teams, as this is the job of LEMA and the UCC. Swiss Rescue's advance team arrived shortly thereafter, marking the first INSARAG classified team on the ground and was swiftly deployed to Hatay, 190 km from Adana Airport to begin rescue operations.

Initial RDC set up at Adana airport

The decision was made by LEMA to not initially establish an RDC in Gaziantep airport. This later changed on 11 February and an RDC was set up there to register arriving teams.

2.2.3 First UNDAC Arrival

Given the scale and complexity of the disaster, it was evident that coordination was going to be a significant challenge. 22 hours into the response, the UNDAC team leader and first UNDAC members arrived in Adana. Concurrently, the UNDAC Liaison to AFAD was established alongside a joint UNDAC-EUCPT Coordination Cell inside the AFAD National Disaster and Emergency Management Center (NDEMC) in Ankara.

A first meeting was conducted between the UNDAC Liaison and AFAD and the following terms of reference for the UNDAC/INSARAG Liaison Officer (LO) based in the AFAD NDEMC were agreed:

- UNDAC/INSARAG Secretariat LO supports AFAD HQ in the strengthening of ongoing coordination of international USAR teams.
- Harmonizing the daily reporting of the operational status of the international USAR teams.
- Act as a link to the UNDAC TL and the UCC and SCCs.
- AFAD proposed UNDAC and EU to agree on a Joint Coordination Cell to be established in the command center, supporting AFAD in a) USAR response cycle milestones and selection of a date to stop further arrivals of international USAR teams, and b) the transition of international USAR ops to a national response and recovery ops, and possibly transition to beyond the rubble operations as needed.
- Arrange for ICMS briefings to AFAD.

By the end of the first day, much of the operation was already well underway. USAR teams around the world, both INSARAG classified and non-classified, were quickly mobilizing, an RDC had been established in Adana, members of UNDAC's first wave were streaming in, and the first USAR teams were enroute to worksites in the affected area.

OCHA Under Secretary General, UN Resident Coordinator facilitated by UNDAC at the NDEMC in Ankara

2.3 Operations

2.3.1 INSARAG Coordination System

The following day, 7 February 2023, INSARAG teams began flowing into Türkiye. A temporary UCC was initially established in a passenger bus by NED01 and SUI01. Once tents were ready, the UCC was moved from the bus into the tent which housed the UCC for the first part of the response.

First UCC in a bus

Initially, LEMA organized a single UCC located in Hatay with 4 sectors. The UCC was staffed by colleagues from NED01, SUI01, ISL01, HUN01, AUT01, and an UNDAC liaison. The UCC later decided to create a sub-sector with its own SCC in Hatay (SCC5). Due to the expansive affected area, five more sectors were established in collaboration with the UNDAC liaison in the UCC. Some of these were small sectors, sometimes with a single international team working alongside a national team. Therefore, representatives from these teams would take on the responsibility of sector coordinator and communicate directly with the UCC. This allowed daily contact between the UCC and all sectors. The UCC also created a space for all sectors in VOSOCC to facilitate communications.

Ultimately, 10 SCCs were established across the affected area in Adiyaman (1), Kahramanmaraş (2), Malatya (3) Gaziantep (4), Hatay (5, 10)*, Iskenderun (6), Nurdağı (7), Besni (8), and Kırıkhan (9).

UCC Staff in Hatay

From the 12-16 February, the decision was made to move the UCC from Hatay to Adiyaman. Colleagues from USA02 and ISL01 and the UNDAC liaison staffed the UCC during this period. The Hatay UCC was converted into SCC 10 during this period. The UCC moved back to Hatay on 16 February and remained operational until 20 February at which point it was handed over to AFAD who assumed all coordination responsibilities from that point forward.

"When a small number of teams responds to a mission, they are directly coordinated by the UCC. However, as the complexity of a mission grows due to the arrival of more teams, increased areas of operation, and/or direction from LEMA, the UCC may decide to divide the operations within the affected area into geographical sectors to increase the effectiveness of the USAR coordination."

UC Handbook

UNDAC established an On-Site Operation Coordination Centre (OSOCC) in Gaziantep, with Sub-OSOCCS in Hatay, Kahramanmaras, Adiyaman and Malatya.

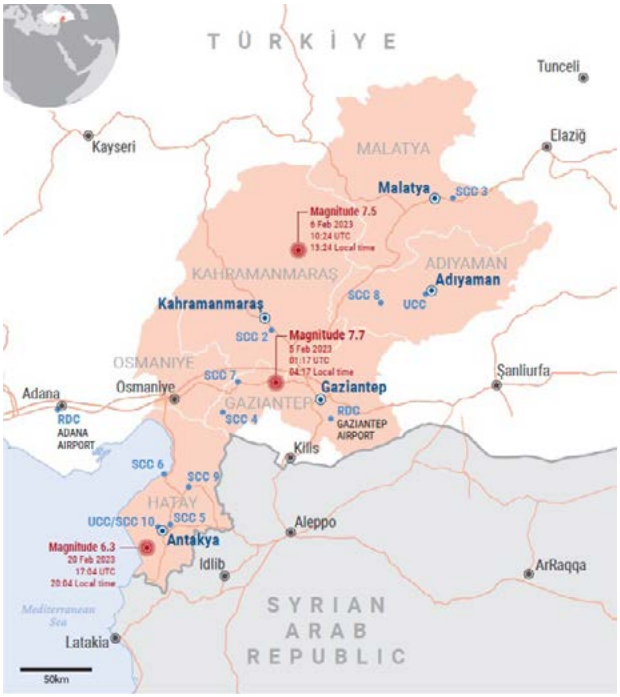
On 7 February, the Joint UNDAC-EU Coordination Cell endorsed by AFAD was established, enabling joint information sharing (DSS, OCHA, EU, AFAD reports), harmonization of USAR reporting between AFAD figures and ICMS, joint liaison with AFAD, and EUCPT assistance on USAR coordination when required.

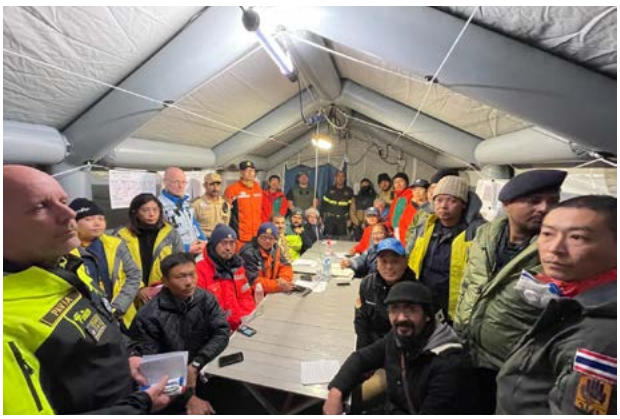
UNDAC members were allocated to the UCC and SCCs to support USAR operations. UNDAC assisted in strengthening the field coordination by facilitating the discussion on VOSOCC and reporting from SCCs to the UCC.

The entire coordination structure in Türkiye was supported and monitored by INSARAG and UNDAC Secretariat staff operating remotely from OCHA Headquarters in Geneva. In addition to completing OCHA-specific tasks, the Geneva Team was pivotal in facilitating communications between coordination structures, teams, and LEMA; overseeing INSARAG's information management systems; daily reporting responsibilities; and being a knowledge asset of the overall response.

Strong coordination between UNDAC and EUCPT

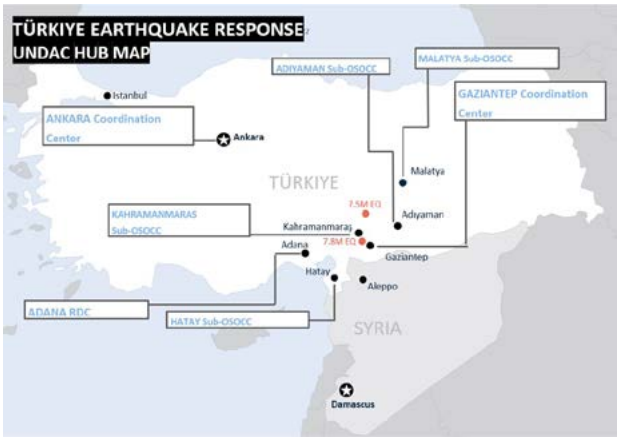
Figure 5: INSARAG coordination structure map (Source: INSARAG)

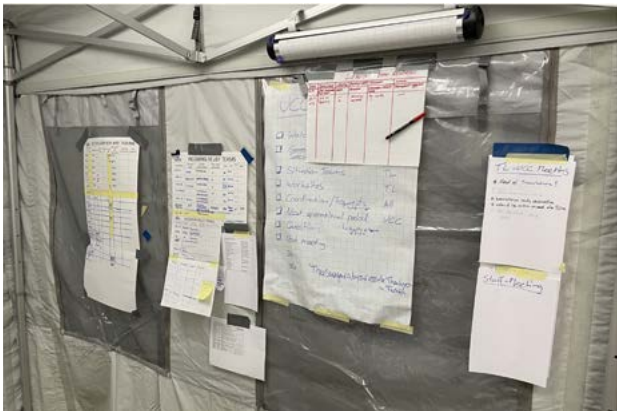




SCC team members

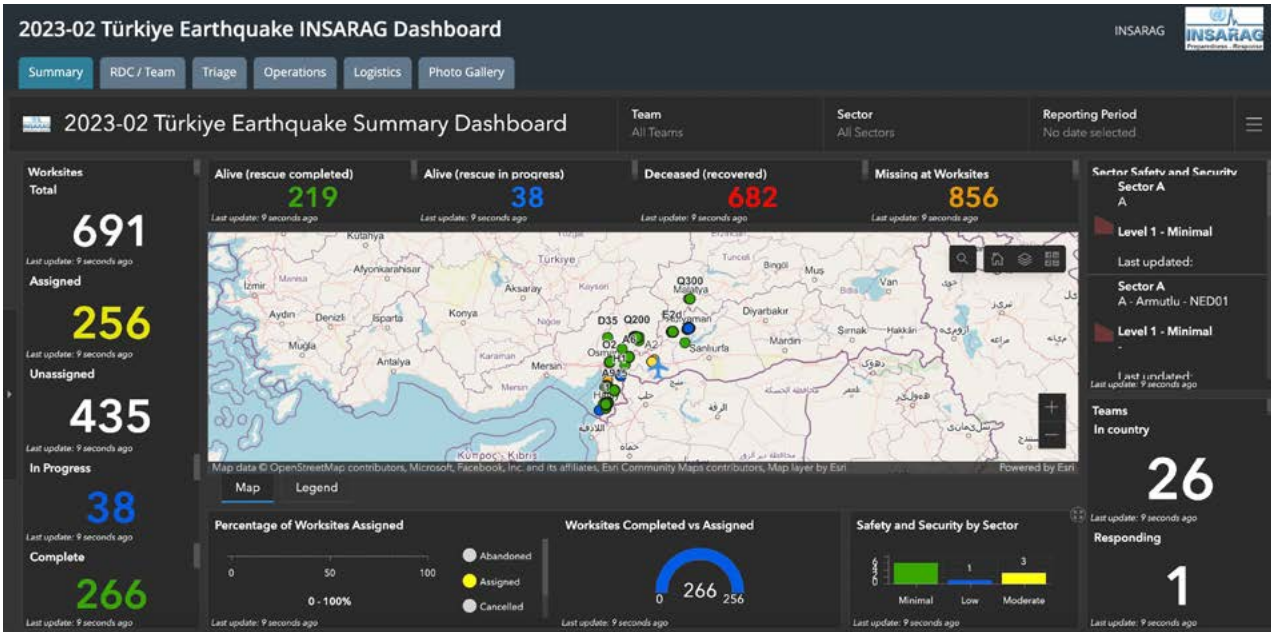
Figure 6: Map of UNDAC OSOCC and sub-OSCCs (Source: UNDAC)





Coordination planning on paper

Moving the UCC from Hatay to Adiyaman



Screenshot of the ICMS dashboard

2.3.2 Information Management

INSARAG employed two parallel online information management systems during the response:

- VOSOCC: a real time online coordination platform used by many response actors. This platform facilitated communication across the INSARAG coordination system and between teams and other responders.
- ICMS: an ArcGIS powered dashboard which provides a visual representation of the coordination system and allows forms submitted by teams to be displayed.

In addition to the two major platforms, INSARAG teams employed many other tools to facilitate communication and information management, including: ArcGIS, ASIGN pro. Baidu, Copernicus Images. Crisis 24, DJI Terra, Engage System, Google products, Maps.me, ESRI tools, Microsoft Teams. Ozi explorer, QGIS. QuickCapture, Satellite phones, Signal, SMS, Telegram, VOSOCC, WeChat, WhatsApp, and more.

Given the immense number of responders, the complexity of the coordination structure, and connectivity challenges, INSARAG teams were forced to be creative and flexible in their means of communication.

2.3.3 Search, Rescue, and Recovery

Over the next two weeks, over 3,500 INSARAG Classified USAR specialists worked day and night with their national counterparts. INSARAG's 49 teams made up only a small portion of the total international response. INSARAG Classified Teams, which included the four Turkish IEC Teams, were only one part, albeit a significant one of the overall USAR response. In total, 255 international USAR teams (classified and non-classified) from 90 countries deployed an estimated 11,320 search and rescue personnel to Türkiye. INSARAG's UCC coordinated the activities of 118 of these teams.

AFAD and the UCC dispatched teams into the ten sectors spread out across the 350,000km2 affected area. Rescuers worked tirelessly day and night in challenging conditions to locate and extricate victims. Their efforts were hampered by snow and rain, freezing temperatures, significant damage to roads and infrastructure, safety and security issues, and unreliable telecommunications. Yet, they pushed through, employing a variety of search methods, including: K9 search, thermal cameras, listening devices, wired search cameras, and drones. In addition, teams worked closely with local citizens to show them the location of missing relatives and friends.

On 9 February, seven international teams reorganized and redeployed all or part of their teams to Syria to assist in search and rescue operations there. One team (QAT-01) arranged a bilateral agreement to deploy to hard-hit opposition-controlled Northwest Syria. The breadth of the ongoing response in Türkiye coupled with the unique security and political challenges of operating in Syria prevented a larger INSARAG response there.

INSARAG teams in Türkiye and Syria started working through the USAR operations assessment, search, and rescue (ASR) levels.

Level 1: Wide Area Assessment.

Level 2: Worksite Triage Assessment.

Level 3: Rapid Search and Rescue.

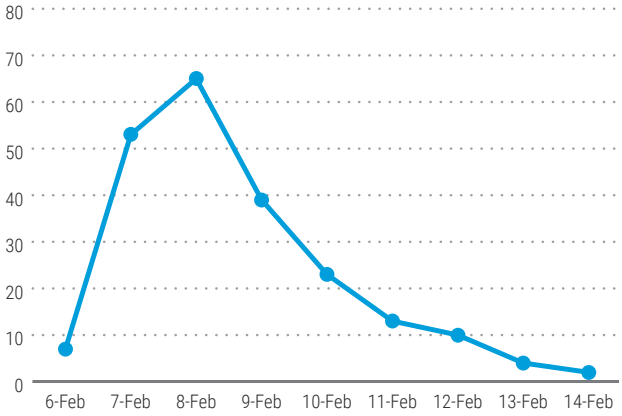
Level 4: Full Search and Rescue.

Level 5: Total Coverage Search and Recovery.

These operational levels are not necessarily completed sequentially. The levels may be done in any order, or levels done in parallel if applicable to the circumstance.

INSARAG teams took on a range of responsibilities across ASR operations. For example, USA01 assisted in the completion of an ASR-1 (wide area assessment) across the entirety of Adiyaman under the direction of the SCC. Other teams report their priorities more heavily weighting ASR-2 (worksite triage assessment) and ASR-5 (total coverage search and recovery). The predominant focus of each team's operations varied according to the worksite(s) which they had been assigned. Additionally, many team members assisted the operations of the INSARAG coordination structure, staffing the UCC, RDCs, and SCCs. All roles in this operation proved indispensable. It highlights the fact that the INSARAG system relies on the cooperative functionality of all its individual components. Any victim rescued is made possible by the joint efforts of the entire INSARAG family. The glory of these moments is shared across the entire network and the collective effort that goes in to making them possible.

Figure 7: Live rescues reported by day



Total number of live rescues reported by international USAR teams by day as reported on ICMS. Note: As not all rescues were reported on ICMS, these data do not represent the total number of live rescues performed by international teams.

As expected, most live rescues occurred during the 72-hour golden window for lifesaving operations. This is illustrated clearly in Figure 7, as the number of live rescues by international teams peaked on 8 February. As the hours wore on, the chances of live rescues diminished, and teams began shifting their focus to assist LEMA with body recovery (ASR-5) and filling other needs as directed by LEMA and the UCC.

A USAR team member with two victims of the earthquakes

Figure 8: Number of live rescues and teams by SCC

	Number of teams	Live rescues
SCC 1	22	36
SCC 2	33	118
SCC 3	2	12
SCC 4	9	11
SCC 5	22	4
SCC 6	1	1
SCC 7	2	2
SCC 8	3	13
SCC 9	3	5
SCC 10	45	98

Total number of international teams and live rescued performed by international teams per SCC

Figure 8 demonstrates the number of live rescues performed international teams and the number of international teams working in each sector (including non-classified teams coordinated by the UCC). It should be noted though that the number of teams and worksites varied heavily between sectors. Furthermore, conditions in each worksite varied heavily. The types of worksites, operational needs, number of possible survivors, etc. was vastly different between sectors. The figure is a good representation of this variance, with the bulk of international team activity coordinated under SCC1 (Adiyaman), SCC2 (Kahramanmaraş), and SCC10 (Hatay). Note that SCC5 and SCC10 both were in Hatay. By contrast, the remaining SCCs featured a much smaller share of teams-- in the case of SCC6 (Iskerendun), only one team operated there and managed all levels of coordination and operation for their sector.

In addition to the role that INSARAG teams play in search and rescue operations, they proved important in recovery efforts such as the extrication of deceased individuals and other beyond the rubble support. INSARAG team members demonstrated a high level of professionalism while providing support to grieving family members throughout this process. Their level of empathy and compassion should be commended as these efforts are a crucial step to bringing closure to many people. This is an oft-underappreciated role played by rescuers in any disaster scenario.

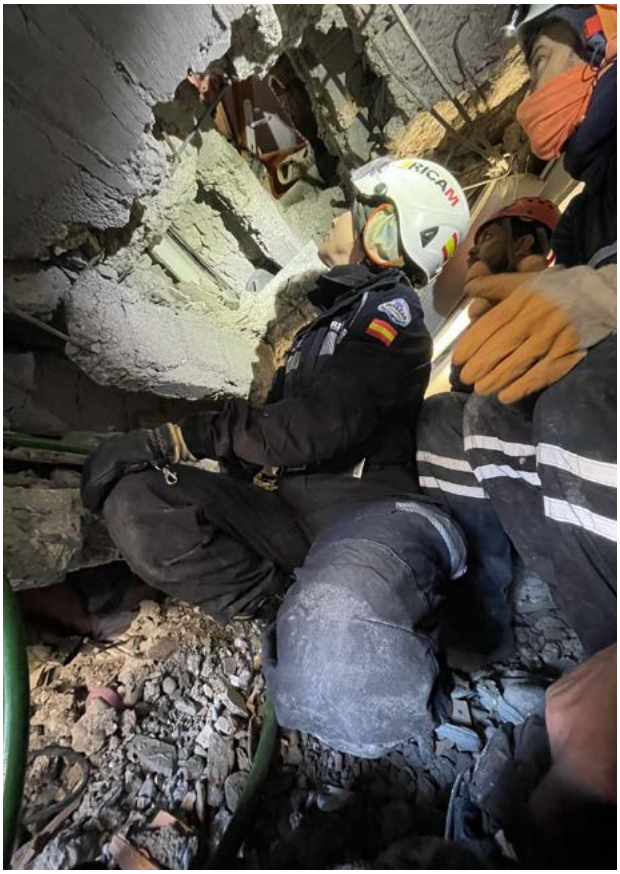
USAR operations

INSARAG teams faced a variety of safety concerns during their operations. Teams employed safety and security officers to carry out ongoing risk assessments. Additionally, engineering assessments are carried out, sometimes with laser readings synced to an automated alarm system to alert rescuers of a potential building collapse. INSARAG teams operated in accordance with the INSARAG guidelines and handled any safety and security issues with professionalism. No major incidents were reported throughout the course of the operation.

USAR operations

International and national USAR team members work together to care for a victim

The last live rescue reported by an INSARAG classified team occurred on 14-Feb. National responders reported their last live rescue 4 days later, a miraculous 12 days since the initial earthquakes. In total, international teams accounted for 300 lives saved during the operation. Against the backdrop of the 50,906 deceased and millions displaced, this number may seem small, but its significance is far greater than statistics will ever portray. INSARAG personnel reunited families with their loved ones and provided 300 people with a renewed chance at life. These lives stand as living reminders of the impact that collective action can have in the face of adversity, emphasizing the profound significance of solidarity and international collaboration in times of crisis.



USAR operations inside of a damaged building

2.4 End of Mission:

"The AFAD Presidency, on behalf of the people of Türkiye, offers our deepest gratitude to all the international urban search and rescue (USAR) teams who have responded very swiftly, and rendered invaluable life-saving assistance during this challenging time.

We are very appreciative of the professionalism and dedication of the international responders working with AFAD teams, in very challenging conditions, to save lives and offer medical assistance to the affected population. For this, we thank you for your strong solidarity, and your efforts in saving precious lives from the rubble.

I would like to thank the international teams that have completed their missions and wish them a pleasant and safe journey home"

Mr. Recep Salci (AFAD) 22 February 2023

By 19 February, 53% of INSARAG teams had departed Türkiye. The following day, the UCC was handed over to AFAD, thus marking the end of INSARAG coordination of international teams. That evening, at 20:04 local time, a 6.4M aftershock struck near Hatay, killing three people and stressing the collective trauma of people on the ground. The aftershock was one of more than an estimated 30,000 to occur in the weeks and months following 6 February—chilling reminders of the ever-present danger of nature's forces. Thankfully, this aftershock was the most notable and recovery efforts carried on, led by AFAD.

As operations transitioned to recovery efforts, early arriving teams began to depart, having reached their limits of self-sufficiency in accordance with the INSARAG guidelines. A few teams departed early, citing heavily punishing conditions, morale, emotional and mental depletion of teams due to intense rescue activity, lack of psychological care, and fatigue. These arrangements were discussed with UNDAC and LEMA and are a testament to the immense challenges that this response had to offer. Other teams continued assisting AFAD with recovery operations and "Beyond the Rubble" activities, supporting additional humanitarian needs. This included facilitating donations of humanitarian aid supplies and camp assistance for other humanitarian agencies. Many teams opted to donate their rescue equipment at the end of their missions. On 20 February, 17 days post-earthquakes, the final INSARAG classified team departed Türkiye.

2.5 Post-Mission

Upon arriving home, INSARAG teams engaged in post-deployment activities to ensure a comprehensive and reflective approach to their involvement. These include debriefing and evaluation sessions to discuss the mission's successes, challenges, and lessons learned. Teams then completed documentation and submitted post-mission reports to the INSARAG Secretariat within 45 days of the ends of their missions.

Due to the violent nature of the earthquakes and the exposure to traumatic events in their response, mental health and well-being of personnel was of the utmost priority for INSARAG teams. Many teams employed peer support officers and mental health specialists for their teams that provided well-being support throughout the mission. Additionally, upon arriving home, many teams facilitated mental health follow ups with professionals and ongoing counseling to ensure that their team members are fully supported.

Shortly after the end of INSARAG deployments, the network coalesced to thoroughly review their response to Türkiye and Syria. A months-long multi-stage after action review (AAR) was conducted to assess the wins, challenges, and lessons learned. The following section will describe the AAR process and outline its primary recommendations, as well as discuss the future directions of INSARAG following its most significant challenge to date—the 2023 Türkiye-Syria Earthquakes Response.

USAR team members work next to a collapsed building

11,320

International search and rescue personnel responded to the earthquakes Türkiye

The total affected area was estimated to be

120,000 km^2

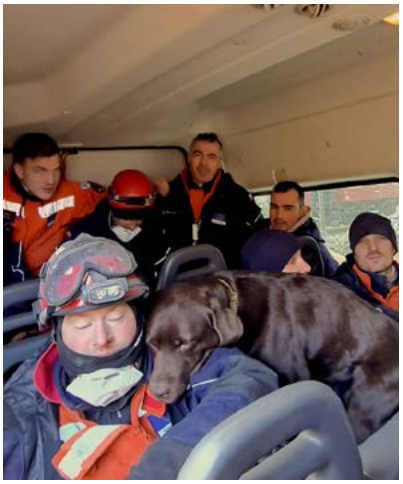
255 International USAR teams, representing 90 countries and organizations

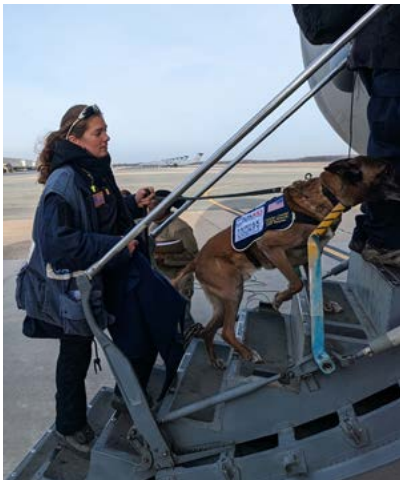
49 teams were INSARAG classified

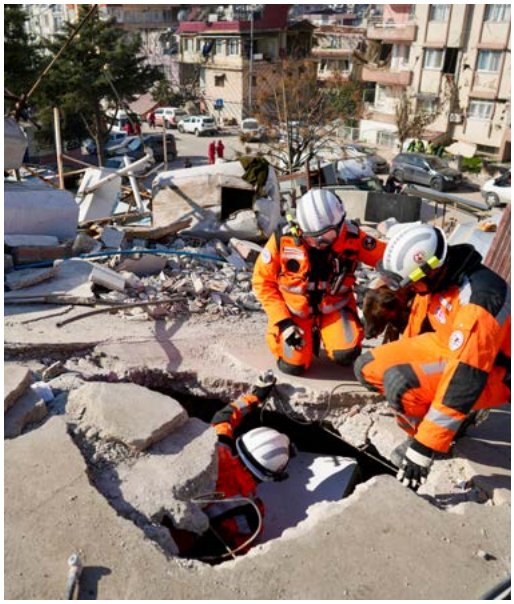
118 teams were coordinated under INSARAG's coordination system

IN TOTAL

300 LIVES WERE SAVED BY INTERNATIONAL USAR TEAMS








USAR
ERICAM

Section 3: After Action Review Key Recommendations

3.1 After-Action Review Process Overview

3.1.1 From Demobilization to Doha

The days, weeks, and months following demobilization of INSARAG teams featured a series of meetings, discussions, and interviews to identify the wins, challenges, and lessons learned from the response. This comprehensive process concluded in October 2023 in Doha, Qatar, where the INSARAG network, Secretariat, and other key stakeholders met to review the final lessons learned report and devise a way forward to implement the recommendations derived from the results of this effort.

—

"We will be talking about the Türkiye and Syria earthquakes until the day that we all retire."
Edem Wosornu, UN OCHA Operations and Advocacy Division Chief

Just over a week after all teams arrived home, the annual INSARAG Team Leaders Meeting took place in Singapore from 28 February – 3 March 2023. The aptly timed meeting served as an initial "hot wash" for team leaders to review what occurred during the response and offer their initial inputs. The bulk of these meetings was dedicated to this process, with key information being captured using Padlet software. These meetings were a first key data point in what would become a thorough, months-long review of the responses to Türkiye and Syria.

2023 Team Leaders Meeting in Singapore

Teams that deployed to Türkiye and Syria were required to submit post-mission reports to the INSARAG Secretariat within 45 days of demobilization. These reports provided a vital insight into individual team operations, but also allowed teams to offer recommendations, insights, challenges, and lessons learned across all aspects of the response.

On 25 April 2023, the annual INSARAG Steering Group Meeting took place during the Humanitarian Networks and Partnerships Week in Geneva, Switzerland. This meeting was an opportunity for 173 participants from 51 countries to meet in person. The meeting followed a new format with breakout sessions allowing participants to share and contribute useful ideas and improving interaction and engagement within the network. All content from the breakout sessions that was directly related to the Türkiye-Syria response was captured and used to generate recommendations in the AAA & R report.

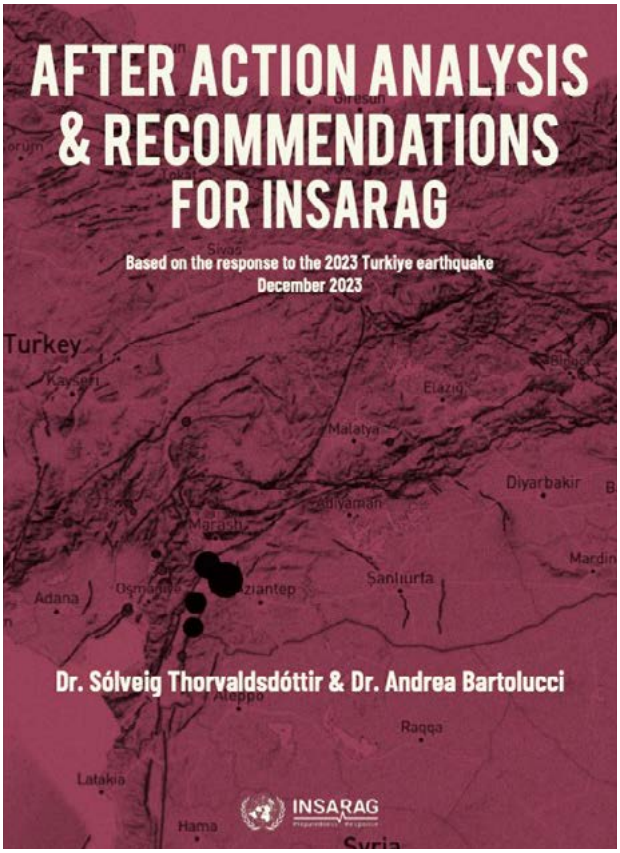
Presenters at the lessons learned session during the Humanitarian Networks and Partnerships Week 2023 in Geneva, Switzerland

Throughout the Summer of 2023, the full After-Action Review Report was prepared by an academic consultancy team (more information in sub-section 1.2). This report was then shared with the INSARAG network ahead of 6 key working group meetings and a global meeting AAR meeting that took place in Doha, Qatar in October 2023. During these meetings, participants reviewed and refined the recommendations from the AAA & R report and discussed strategies for implementing these recommendations.

Breakout discussions during the global AAR meeting in Doha, Qatar

The key outcomes from this process will be outlined in this section, organized by five key focus areas of priority.

3.1.2 After-Action Analysis and Recommendations Process



Cover of the AAA & R Report

Academic consultants, Solveig Thorvaldsdottir, PhD (Team Leader Iceland) and Andrea Bartolucci, PhD (University of Leiden), conducted a full review of outcomes from the AAR process to generate a 54-page After-Action Analysis and Recommendations (AAA & R) report for the INSARAG network. This report is a thorough review of the Team Leaders Meeting outcomes (padlet responses), team post-mission reports, ISG breakout outcomes, VOSOCC data, ICMS data, and key informant interviews.

To access the full report, please visit the INSARAG website or follow this link.

3.1.3 Doha Meetings

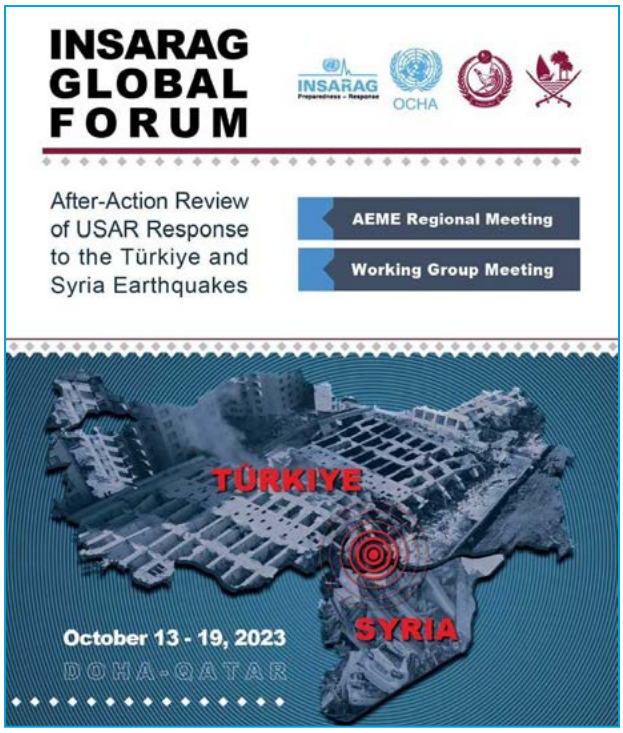
From 11-19 October 2023, Qatar's Internal Security Force and International Search and Rescue Group (Lekhwiya), graciously hosted back-to-back-to-back meetings of the INSARAG network in Doha, Qatar.

First, were five INSARAG working group meetings (Training Working Group, National Capacity Building Working Group, Guidelines Review Group, Information Management Working Group, and IEC/R Working Group. Each working group carved out dedicated time to review the recommendations from the AAR & R report and discuss the implementation of the recommendations in line with their workplans.

Next, from 17-18 October, was the main event—The INSARAG After-Action Review of the USAR Response to the Türkiye and Syria Earthquakes. This global meeting was attended by 185 people, representing 80 countries and organizations. This meeting featured breakout sessions for the five priority areas led by working group chairs.

Presentations during the Doha meetings

During the opening statements of the AAR meeting in Doha



3.2 Recommendations for the INSARAG Network

Disclaimer: The following recommendations from the After-Action Analysis & Recommendations (AAA & R) Report are non-exhaustive. These recommendations were reviewed and endorsed by INSARAG's working groups and broader network during the October 2023 meetings in Doha. This sub-section highlights major recommendations from the report grouped by focus area. The focus areas/sub-headings of this section are derived from the corresponding breakout session topics that were conducted during the Doha meetings and the top-level recommendations featured here are endorsed by the leads (working group chairs/ co-chairs) of these sessions. Many of these issues are cross-cutting and therefore can fit into multiple categories, the following section is not intended to be a conclusive categorization of these topics but rather a presentation of highlighted outcomes from the full AAR process. Progress on many of the issues presented here is already underway.

3.2.1 Capacity Building and Localization

An evergreen topic to INSARAG's strategic plan and highly relevant to the 2023 Türkiye-Syria earthquakes response, capacity building and localization involves enhancing the skills, knowledge, and resources of individuals, organizations, and communities involved in urban search and rescue (USAR) efforts. This includes strengthening the ability of nations and regions to respond effectively to disasters through training programs, skill development, and the establishment of robust response mechanisms. Adapting INSARAG coordination methodologies and concepts to the specific contexts and needs of individual countries entails integrating USAR coordination principles into national disaster preparedness and response plans, as well as incorporating them into both national and international training programs. The goal is to ensure that the response efforts are tailored to the unique challenges and circumstances of each country, promoting a more effective and locally relevant approach to disaster management. Regional Groups play a crucial role by assisting disaster-prone countries in implementing accreditation processes and training packages for communities. INSARAG advocates for national and regional ownership of preparedness efforts aligned with national priorities.

Key Issues and Recommendations Related to Capacity Building and Localization

Issue/Recommendation	Action Items
Develop host nation suport guidance	Develop LEMA procedures for swift information sharing and expediting the decision-making process immediately following an event should be regularly reviewed to keep them up to date and train new staff based on staff turn-over rate.
	Share the results with LEMA of disaster-prone countries, OCHA, international USAR teams and their donors.
	Prepare LEMA to provide logistical support to international USAR Team.
	Address the issue whether LEMA should accept all teams, such as ill-prepared teams, especially ill-prepared non classified teams and how will they know the difference.
	Develop recommendations or best practices for managing the first stages of sudden onset disasters with widely spread impact where national systems are overwhelmed.
Develop guidance for national USAR coordination and integration of international USAR teams	Strengthen RDC and UCC support and setup by LEMA/national teams as part of their national response framework. Sectorization should be part of LEMA/national pre planning and preparedness.
Develop guidance for national USAR coordination and integration of international USAR teams	Develop training to better prepare LEMA for deciding what's needed and accepting donations, for requesting and accepting beyond the rubble ops, and to brief incoming international USAR Teams.
	Address the issue of how to include LEMA and national teams in using ICMS.

Key Issues and Recommendations Related to Capacity Building and Localization

Issue/Recommendation	Action Items
Foster national USAR capacity building	The new National Capacity Building Working Group will focus on USAR capacity building.
	It is recommended that building capacity among LEMA entities be either a second objective to building USAR team capacity or given to a separate group, as the work is very different. INSARAG Secretariat to take the lead.

3.2.2 Quality Standards and Compliance

INSARAG places a strong emphasis on quality standards and compliance, guided by UN GA 57/150. The organization is committed to continually updating, evaluating, and improving its methodology to ensure it remains 'fit for purpose.' To achieve this, INSARAG Regional Groups actively contribute to enhancing the INSARAG guidelines on preparedness and response at national, regional, and international levels. The IEC system is the backbone of INSARAG's commitment to quality standards and IEC teams are a testament to the importance of standardized methodologies and guidelines. The size and complexity of the response to Türkiye and Syria was a massive challenge for the entire system, with many non-classified teams joining in on search and rescue efforts. IEC teams largely upheld the standards set forth in the INSARAG guidelines and the network upheld its mandate. Yet, many lessons were learned during the response, particularly related to ensuring accountability and compliance of international teams.

Key Issues and Recommendations Related to Quality Standards and Compliance

Issue/Recommendation	Action Items
IEC/Rs address compliance and accountability issues for teams	Suggest the creation of a possible ethical board to analyse compliance Suggest the use of IEC/R checklist, honestly and with self-criticism, as self-assessment after deployments for analysing their compliance to INSARAG minimum standards and teams' expectations.
	Suggest self-declared additional yellows to work on for the next IER-share with mentor (and classifiers?). Other colors (better than expected/worse than expected).
	Strengthen compliance and accountability for teams in the IER/C process by strengthening wording within Guidelines enforcing tactical operations.
	Create a mechanism to allow current UC manager to report on teams reasoning for non-compliance in providing UC staff when requested. Captured data to support AAR recommendations in future, not as a punitive measure.
	Add an entry into the UC Handbook with guidance for current UCC Manager to report on denial occurrences.

Key Issues and Recommendations Related to Quality Standards and Compliance

Issue/Recommendation	Action Items
More focus on international coordination in IEC/R Process	More demanding coordination scenarios.
	More injects from initial info, arrival, operations and beyond/besides the rubble.
	Include participation of other National/International skeleton teams in IEC/R exercise to practice coordination (including teams with coming IEC/R that should participate with injects via VO/ICMS) and have unexpected information to manage.
	The IEC/R UCC should be able to involve remote teams in coordination via online meetings (could be facilitated by INSARAG).
	Clarify on checklist that Team Home Office should be operating during IEC/R exercise

3.2.3 INSARAG System and Guidelines

INSARAG is committed to ensuring that its system and guidelines are always up to date and of the highest international standard. This AAR was an opportunity for the network to brainstorm ways to bolster its guidelines, in accordance with the workplan of the Guidelines Review Group (GRG) 2023-2025. The GRG implements changes requested by the various INSARAG Working Groups and endorsed by Team Leaders Meeting and INSARAG Steering Group. Additionally, the Training Working Group works to ensure that training material and exercises are in line with current practices and available.

Key Issues and Recommendations Related to INSARAG System and Guidelines

Issue/Recommendation	Action Items
More training on current guidelines and more variety in training scenarios	Add training material and exercises on team self-sufficiency, how a mission begins from the moment a disaster occurs, and on how to use the VO.
	Use scenario matrices as presented in the AAA & R report.
	Teams to arrange training with local heavy machinery operators, to pre-plan for transport options on arrival with less dependency on LEMA, logistics, team management, training for uncertainty through stronger situational awareness.
	Teams to be aware/take advantage of regional training opportunities, with focus on ERE.
	Include scenarios within ERE program to address coordination failure, high volume sectorization, no LEMA.

Key Issues and Recommendations Related to INSARAG System and Guidelines

Issue/Recommendation	Action Items
Crush syndrome and amputations	The INSARAG guidelines should be enhanced to reflect the critical importance of providing crush syndrome treatment and amputations.
	A special communique will be developed by the MWG for circulation by the Secretariat that reminds teams of this essential humanitarian activity and of the information already available on the INSARAG website.

3.2.4 Information Management

Information management was a key area identified in the AAA & R report. Several recommendations emerged related to data collection, simplification of forms, and use of ICMS and VO. Additionally, the INSARAG website was noted as in need of significant decluttering and reorganization to ensure that information is available publicly in an understandable format. A few of the issues and action items related to information management which emerged through the report and the Doha meetings are below. The Information Management Working Group (IMWG) is diligently working to ensure to ensure the implementation of these recommendations.

Key Issues and Recommendations Related to Information Management

Issue/Recommendation	Action Items
Simplification of forms and increased flexibility	Review forms for amount of data collected and time that it takes and make a distinction between critical information for lifesaving and useful information.
	Make suggestions on how to reduce the amount of data on the forms.
	The Victim Extrication Form will be simplified in collaboration with the Medical Working Group.
	Clarify in the forms and software that teams can be assignment a work-area, not only work sites.
	With the ability to assign work-areas and delinking of the worksite ID from the sector, ICMS will be able to assign teams in any order of ASR levels, therefore increasing flexibility.
ICMS version 3.0	Develop version 3.0 ICMS, which will strive for simplifications, lower requirements for skill levels, and increasing user-friendliness.
	A draft version to be presented and discussed at 2024 Team Leaders Meeting, along with a flowchart of how it operates. Bandwidth issues for areas with low internet connectivity will be addressed.

Key Issues and Recommendations Related to Information Management

Issue/Recommendation	Action Items
VO and other digital tools	A policy to be developed for how teams and RDC/UCC use the VO for announcement and information sharing, and whether it should be used as a communication tool, and use it to create a more functional structure of the VO.
	Design more practical training using VO that will test many different types of situations.
	Beyond VO and ICMS, other appropriate digital tools for coordination should be identified and practiced.
	Identify instances for use of VOSOCC vs ICMS to prevent duplication of information. Address resource repair regarding e.g., broken links, app does not load, difficulty searching for needed information.

3.2.5 USAR Operations

USAR operations is a broad, cross-cutting category. Much of the AAA & R report covers parts of USAR operations, including logistics, search and rescue, safety, security, medical, and training. Presented here are only a few of the recommendations related to USAR operations. Several working groups are represented in this important topic. Review processes for issues related to USAR operations are crucial to ensuring that responses are efficient, effective, and harmonious as an international network. Flexibility and adaptability by teams are needed in every response.

Key Issues and Recommendations Related to USAR Operations

Issue/Recommendation	Action Items
New procedures and training	Procedures and training on estimating needs for RDC/UCC/SC, sharing information in UCC, more variety in team assignments, need for teams sectorization, and handover training.
	Review the procedures and training for end-of USAR operations. Strategic, operational, and technical Search Courses (SOT Search Courses) that begin from the start of the operations all the way through to finding all the victims.
	TWG take the lead on this discussion on special the concept of RDC/UCC teams from classified USAR teams, but the initiative lies with the teams.
	Consider whether ERS should establish a virtual UCC and/or in cooperation withs teams running an RDC/UCC.
	Review the text in the INSARAG Guidelines on whether clarification is needed that RDC that USAR teams manage are for USAR teams.
Triage/survivability in voids	Worksite prioritization of worksites within triage categories needs to be addressed. Probability of survival needs to be factored in.

Key Issues and Recommendations Related to USAR Operations

Issue/Recommendation	Action Items
Mission related	Create new template for request for international assistance.
	Create sentence in policy guidelines regarding speed of mission activation.
	Adjust fact sheets to simplify content and increase consistency. Create guidance for teams as to when to pause during ASR 2 due to local need.
	Create guidance on identifying non worksites, when needed. Clarify sectors and use of sectors in reference to ASR 1 and 2.
	Create definition on worksite completion to ensure worksite completion is clear to all parties
Flexibility /adaptability and ASR levels	Use scenarios and inputs that highlight the importance of decision-making process at all stages (i.e., Include situations that forces decisions where possible ASR levels happen simultaneously)

3.2.6 Working Group Task Table*

The following table can be found in the AAA & R Report (Annex 4, P. 54).

Topics	**INSARAG working groups**						
INSARAG system (INSARAG guidelines)	**CRG**	**TWG**	**MWG**	**IMWG**	**IEC/R WG**	**NCBWG**	**ERS**
Speed of mission activation	**X**						**X**
Flexibility /Adaptability and ASR levels	**X**						
Building Marking	**X**						
Triage and survivability in voids	**X**						
New roles and strengthening roles	**X**						
Phase in, manage, and phase out a UC system	**CRG**	**TWG**	**MWG**	**IMWG**	**IEC/R WG**	**NCBWG**	**ERS**
General		**X**					**X**
RDCs		**X**					
UCC		**X**					
Sectors		**X**					
Phasing out a UC system		**X**					
Working with UNDAC		**X**					**X**
Connections with LEMA at every level	**X**	**X**					**X**
UCC and LEMA Connection	**X**	**X**					**X**
Working with LEMA	**X**	**X**					**X**
Managing expectations of LEMA support	**X**	**X**					**X**
Declaring End of Int´l USAR operations	**X**	**X**					**X**
Donation process	**X**	**X**					**X**
Beyond the rubble	**X**	**X**					**X**

Phase in, manage, and phase out a UC system	CRG	TWG	MWG	IMWG	IEC/R WG	NCBWG	ERS
Training of LEMA	X	X					X
Logistics							
Topics before arrival		X					
Topics upon arrival		X					
Topics during mission		X					
Information management	**CRG**	**TWG**	**MWG**	**IMWG**	**IEC/R WG**	**NCBWG**	**ERS**
Virtual OSOCC		X		X			
Are we collecting too much data?		X		X			
ICMS Software				X			
Other digital tools				X			
Medical	**CRG**	**TWG**	**MWG**	**IMWG**	**IEC/R WG**	**NCBWG**	**ERS**
Medical			X				
Safety and security issues	**CRG**	**TWG**	**MWG**	**IMWG**	**IEC/R WG**	**NCBWG**	**ERS**
Safety and security	X	X					X
Team responsibilities - Taking ownership	**CRG**	**TWG**	**MWG**	**IMWG**	**IEC/R WG**	**NCBWG**	**ERS**
Team Responsibility	X						
Training							
More training		X	X	X			
More variety in training		X	X	X			
Compliance and IEC/R	**CRG**	**TWG**	**MWG**	**IMWG**	**IEC/R WG**	**NCBWG**	**ERS**
Compliance	X				X		
IEC/R	X				X		

New collaborations and trainings	CRG	TWG	MWG	IMWG	IEC/R WG	NCBWG	ERS
Stategy, Operations, and Technical Search	X	X					X
Team Management and USAR Coordination							
Logistics		X					
Localization		X					
Non-INSARAG Teams	X				X		

3.3 The Role of UNDAC in USAR Coordination

3.3.1 Areas to Strengthen

Disclaimer: The following sub-section contains recommendations that will be carried out via consultations between OCHA ERS, the INSARAG Network, and related stakeholders to strengthen the coordination and effectiveness of international USAR assistance.

The large-scale nature of the response to Türkiye and Syria exposed gaps in the INSARAG coordination system that must be addressed. Among these gaps is a need to clarify and strengthen the role that UNDAC plays in USAR coordination, and for INSARAG teams to know and leverage on the value-added role of UNDAC supporting the international USAR response, under overall UN leadership per GA 46/182 and GA 57/150.

The role of the UNDAC liaison in supporting USAR Coordination is mandated in GA 57/150 and states that "Commending the work of the United Nations Disaster Assistance and Coordination teams in facilitating rapid need assessments and assisting member states to organize the on-site coordination of international urban search and rescue operations". The scope of an UNDAC liaison in an international USAR mission is outlined in the UC Handbook (section 8):

- Advocacy (be catalyst to OCHA and LEMA and other partners)
- Strategy (on issues such as end of operations, Beyond the Rubble, etc.)
- Logistical and other Operational support (share information on health issues, safety and security, logistics etc.)

Harmonious interplay between UNDAC and INSARAG allows for an effective and efficient coordination system, with both entities working amicably side by side. While a UCC can operate independently during bilateral response, strong support from UNDAC improves the likelihood of successful operations, particularly regarding LEMA engagement.

A few key areas for improvement were identified during the AAR process:

- The responsibilities of the UNDAC liaison officer and UCC manager must be clarified.
- The INSARAG Network, INSARAG Secretariat, and OCHA ERS must be proficient in and accountable to the guidance of the INSARAG Coordination Handbook 2022.
- UNDAC's capacities must be strengthened to carry out its responsibilities as set forth by the INSARAG USAR Coordination Handbook 2022.
- Joint UNDAC/INSARAG field exercise collaboration and including improving training content and leveraging existing training opportunities, such as the INSARAG Earthquake Response Exercises (ERE), INSARAG UCC courses and UNDAC Induction and Refresher Courses for UNDAC members from the

USAR roster pool, to engage more with the USAR Teams.

- The role of UNDAC in RDCs (for USAR, EMTs, and relief teams) needs to better be outlined in the UC Handbook for the international USAR teams.
- Agreement must be made between UNDAC and INSARAG regarding the supporting role of USAR teams to collect humanitarian data during the lifesaving operations phase to inform critical humanitarian needs and priorities in the first phase of the response.

3.3.2 Proposed Way Forward

Following consultations with key stakeholders from UNDAC and INSARAG who managed the INSARAG coordination system in Türkiye and discussions in the INSARAG and OCHA ERS, several recommendations arose to clarify and strengthen the role of UNDAC in USAR coordination. Work on these recommendations commenced in summer 2023 in INSARAG, OCHA ERS, and respective networks.

a. Collaboration and Trainings

- Cooperation between UNDAC and INSARAG should be reinforced through design and delivery of joint trainings and meetings, particularly regarding the respective coordination cells.
- Field collaboration between USAR teams and UNDAC must be clarified and agreed by both parties. The USAR Coordination Handbook section 8.0 explains how UNDAC and USAR teams work together. Training INSARAG teams and UNDAC members on this section should be strengthened.
- Specifically define exercise outcomes of INSARAG EREs in USAR coordination for both INSARAG and UNDAC members, the OSOCC, and RDC/UCC.
- Update the USAR session (1 hour), desktop and simulation exercises of the UNDAC Induction course.

b. Preparation

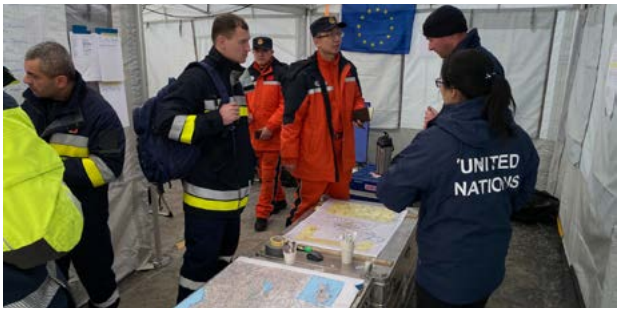
- OCHA ERS to establish a pool of personnel with a robust background of INSARAG coordination methodologies, capable of acting as USAR liaisons or RDC managers.
- Clarify and further specify the profile and terms of reference for the UNDAC UC Liaison.
- Clarify and further specify the profile and terms of reference for the INSARAG UCC Manager.
- Following INSARAG guidance, simplify and/or adapt the content of the OSOCC guidelines and UNDAC Handbook to clarify the role of INSARAG and UNDAC in coordinating non-classified teams, following the guidance from LEMA leading the response.

c. Travel to Disaster Response

- UNDAC members and operational partners to travel together with INSARAG classified USAR teams to respond “at equal speed” as responding INSARAG teams and arrive as fast as possible to kick start the coordination process.
- USAR teams are therefore strongly encouraged to offer seats to mobilizing UNDAC members and staff from UNDAC operational partners in their country or region that are able to join the flight in time. INSARAG teams are advised to inform OCHA ERS of such opportunity as a matter of preparedness

d. Information Management

- Increase knowledge of ICMS for UNDAC members, address the level of access for UNDAC to have to ICMS.
- Explore opportunities to harmonize UCC and OSOCC information management.
- Explore to what extent tasks undertaken in the OSOCC/UCC-SCC (“in the tent”) can be done remotely (e.g. IM or liaison with deploying member states’ teams) by for instance pool members.



UNDAC liaison in Türkiye

3.4 Future Directions of INSARAG

3.4.1 USAR Access and Safety in Complex Emergencies

INSARAG is actively discussing the plausibility of USAR operations in conflict areas. The INSARAG network was deployed to Türkiye at its full capacity. Concurrent to the disaster in Türkiye was an equally devastating disaster in Syria. Despite a call for redeployment to Syria, few international USAR teams chose to do this. Only one team responded in Northwest Syria, where political challenges were a barrier to access for UN humanitarian aid. INSARAG must evaluate its role and capacity to respond to complex emergencies and those taking place in areas with no formal UN representation noting that it is not INSARAG's role to negotiate access at either the political or operational levels. INSARAG must do everything in its capacity to uphold humanitarian principles in a pragmatic, effective, and safe way. OCHA's field presence can support this by engaging with RSB/ERS's regional focal points to organize preparedness training and exercises with the aim of strengthening local capacities through engaging local communities in INSARAG.

Earthquakes and other natural disasters that occur in conflict zones and other humanitarian emergencies are a significant area of concern for INSARAG, as reaffirmed by the crisis in Northwest Syria. Entering an area with active conflict puts rescuers at risk of being targeted. Rescue teams operate self-sufficiently with limited resources and face daunting challenges in logistics and access. Safety is never guaranteed for rescuers in any emergency, complex emergencies add significant security concerns for international teams. This is new terrain for the INSARAG network. INSARAG will explore its feasibility and assess the life-saving role the network can play in these types of emergencies. This is a complex proposition that will be discussed in upcoming ISG and network meetings. Member States reticence to expose their nationals to the risks associated with conflict will be a central issue. With the endorsement of the Community Responders Program to equip local communities with rescue skills, ERS RFPs and the regional networks will reach out to these countries and offer this training to their communities to strengthen disaster preparedness for effective response before crises occur.

QAT01 responding to Northwest Syria

3.4.2 Strengthening Localization

INSARAG promotes adoption by national governments and USAR teams of INSARAG methodology for preparedness and response. Countries can translate the guidelines and incorporate them into their national disaster response plans and standards for USAR teams. The guidelines have already been translated into 8 languages. Examples of progress in this area include the establishment of the INSARAG Recognized National Accreditation Process (IRNAP) and the First Responders Package (FRP)—which is currently being finalized for implementation.

Strong local capacities are the cornerstone of successful USAR response operations. International USAR deployments serve to augment local response when disasters occur. INSARAG is committed to local capacity building and standardizing USAR procedures, especially in disaster-prone areas. INSARAG is exploring ways to engage with disaster-prone governments to bring awareness to the RSB/ERS international emergency response tools and mechanisms that are available to them. INSARAG will build upon its partnerships with OCHA country and regional offices through its ERS Regional Focal Points.

An AFAD vehicle during the search and rescue response in Türkiye

3.4.3 Flexible Response

Flexible Response is an area of growing contention amongst the regional networks, i.e., the use of specialized USAR (essentially collapsed structure rescue) versus the need to have a system that responds additionally to flooding, which effects many of the network's member states more frequently than earthquakes or building collapse. The Secretariat will continue to facilitate the deployment of suitable response teams through its extensive network. To address this, INSARAG's Flood Response Working Group formed in 2023, which will recommend a way forward for INSARAG teams with such capabilities to respond to extreme weather induced disasters. A voluntary roster of INSARAG teams with water rescue capabilities available for deployment by member states for bilateral support, will be prepared and made available by the Secretariat upon request.

Members of UK01 respond bilaterally to flooding in Malawi in March 2023

4.4 New Approaches and Technological Advancements

INSARAG is constantly evolving and reevaluating its approach to disaster response. The network is exploring new approaches and technology that may improve future search and rescue deployments. Among these include the medical working group evaluating medical extrication considerations for crush injuries, telemedicine, and field hospitals to improve the quality of care provided for disaster victims. Other parts of the network are exploring the use of advanced technology in search techniques, such as the use of drones and radar detectors. USAR teams successfully employed some of these methods during the response to Türkiye and Syria. These technologies have the potential to revolutionize USAR efforts by providing more detailed information about disaster sites and helping to identify survivors more quickly. INSARAG's Team Leaders and Working Groups will continue to review and add new guidance, including the use of technologies into our guidelines and methodology. Working Groups for Technical Search and Logistics are recommended to put forward recommendations to strengthen these areas.

Members of FRA01 use a radar lifelocator in Türkiye

Members of MAS01 in Türkiye

3.4.5 Governance Review

Beginning in early 2024, the INSARAG Secretariat is facilitating a full review of INSARAG's governance structure. This process will be carried out by three consultants representing each region. The purpose of this review is to conduct a thorough evaluation of INSARAG's governance framework and strengthen the decision-making processes at the policy level by reviewing Volume I (Policy) of the INSARAG Guidelines.

The consultants will be tasked with the following four objectives:

- Review INSARAG Guidelines Volume I (Policy), focusing on the organizational structure, roles, and responsibilities of all stakeholders.
- Assess the responsiveness and adaptability of INSARAG to evolving global challenges and emerging trends in urban search and rescue operations.
- Highlight recommendations and action plans to address identified gaps and areas of improvement. This may encompass revising the governance structure at all levels i.e., Global, Regional, and Working Group Chairs levels, including reviewing the roles, responsibilities, and tenures of the positions.
- Advise on the development of the INSARAG Strategic Plan 2025-2030, incorporating the recommendations from this review.

Through this process, INSARAG will undergo a comprehensive examination of its policy mechanisms -INSARAG Guidelines Volume I (Policy). The INSARAG Troika, Regional Focal Points, and Policy Focal Points will be consulted to evaluate the current leadership structure, regional ownership model, and linkages with OCHA. Additionally, insights derived from INSARAG's recent deployments, particularly those to Türkiye and Syria will advise the development of future strategy for the network.

The review will assess the conditions and criteria for membership in INSARAG, including the application process and qualification requirements with an aim of increasing geographical diversity and representation of member countries. The approach employed by the consultancy team will seek to boost intersectional inclusivity and diversity within INSARAG across all levels, including the composition of teams, leadership, and network.

Importantly, this process will examine INSARAG's leadership structure. Through the entirety of INSARAG's 30+ year history, Switzerland has served as its Global Chair due to its neutrality and proximity to the Secretariat. Switzerland's diligent leadership and support has contributed to the successes of INSARAG's decision-making processes throughout the years, but in the interest of promoting equity and democratic process, this will be reviewed to determine whether this is the most effective global leadership structure. Potential alternatives will be evaluated, including the continued viability of a single nation retaining the role versus implementing a rotational approach.

INSARAG Steering Group Meeting 2022

3.4.6 A Growing Network

While most INSARAG classified teams are currently in Europe, the balance is gradually shifting with more teams joining the network from the Americas, Asia, and Africa. Seven national teams have completed the INSARAG Recognized National Accreditation Process (IRNAP) and another six are preparing for the IRNAP. The combination of prioritizing international USAR Teams and promoting the training of national and sub-national USAR Teams, which has been embraced by member states, positions INSARAG strongly for the future.

The recent deployments to Türkiye have proven the effectiveness of the INSARAG system. In addition to the INSARAG classified teams responding there, many unclassified teams responded and were coordinated in accordance with the INSARAG guidelines. This has driven significant new interest from countries and NGO teams seeking INSARAG classification—with USAR teams in countries such as Georgia, Iran, Syria, Macedonia, and others expressing interest. Coupled with a backlog of international USAR teams pending reclassification, the INSARAG Secretariat requires significantly more support to keep up with the growing workload.

INSARAG's strong support from its member countries and OCHA are instrumental to ensure its continued effectiveness to better respond to disasters and save lives as the network continues to grow and expand. The network can be consulted on ways to support the Secretariat and regional focal points based in OCHA's regional offices in Bangkok, Nairobi, and Panama City. Regionalization of the network may also lead to a more tailored and

effective approach to strengthening preparedness for the region.

3.4.7 Looking to the Future

The value added from INSARAG's response to the 2023 Türkiye-Syria Earthquakes proves the utility of its methodologies and systems that have been built over many years. The full capacity of the network deployed quickly, largely in accordance with its established guidelines. The INSARAG system worked. Many lives were ultimately saved by the cooperative efforts of the entire INSARAG family. INSARAG stands as a valuable tool in disaster response, emerging as a beacon of hope for affected communities in an often-bleak field where success can be sometimes difficult to find.

Yet, the breadth and complexity of the disaster proved incredibly challenging. It strained coordination systems and exhausted even the most experienced veterans of disaster response. This AAR sheds light on areas for improvement, emphasizing the need for continuous training, resource allocation, and enhanced coordination mechanisms. Addressing these gaps will undoubtedly strengthen the overall effectiveness of future INSARAG missions, ensuring more streamlined and effective responses to humanitarian crises in the future.

The recommendations outlined in this publication and the full AAR & R report must be carried forward by the entire INSARAG family. INSARAG should view the agreed recommendations as a roadmap to the future. Sustaining quality standards requires the collective support of every member of the network. Accountability at all levels of INSARAG is paramount in ensuring that the proposed changes are not simply acknowledged but actively integrated into the systems and methodologies responsible for saving lives. Through these means, INSARAG can prove that it is truly accountable to affected populations of humanitarian crises. The lessons learned from these earthquakes must be a catalyst for continuous improvement, prompting the network to evolve and adapt to emerging challenges. By taking proactive measures to implement the AAR recommendations, INSARAG demonstrates its commitment to bolstering its effectiveness and strengthening its systems. Ultimately, the future success of INSARAG relies on its ability to translate these lessons into tangible actions at all levels-- from the individual rescuers to the working groups, to the Secretariat and the governance structure, we are all responsible for ensuring that the lessons learned from this experience lead us to respond better next time.

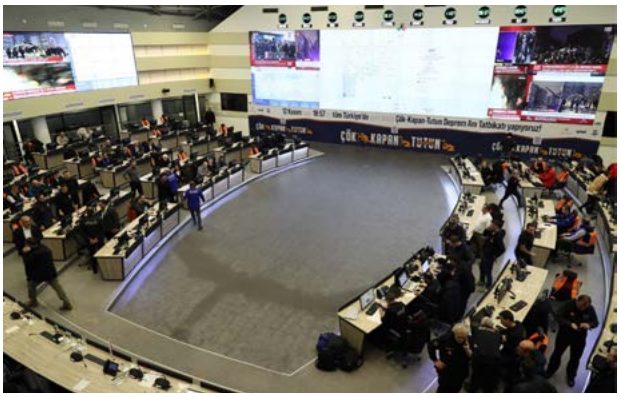
Section 4: The Perspective from LEMA

4.1The Kahramanmaraş Earthquakes and International Disaster Management

Effective Intervention by AFAD and Global Solidarity

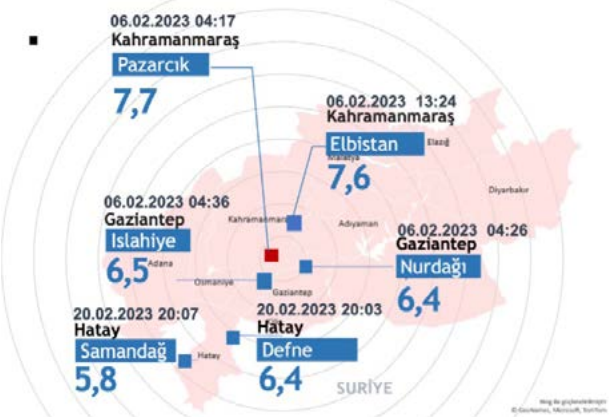
Disclaimer: The following section was entirely drafted, edited, and prepared by the Türkiye Disaster and Emergency Management Presidency (AFAD).

Türkiye was shaken by a major earthquake centered in Kahramanmaraş Pazarcık at 04:17 local time on February 6, 2023, with a magnitude of 7.7 Mw. Just 10 minutes after this significant earthquake, at 04:26 local time, earthquakes with magnitudes of 6.4 Mw centered in Gaziantep Nurdağı and 6.5 Mw centered in Gaziantep Islahiye occurred, followed by earthquakes centered in Kahramanmaraş Elbistan with a magnitude of 7.6 at 13:24 local time.



Upon receiving the information about the earthquake, all disaster managers gathered urgently at the Crisis Center of AFAD (Disaster and Emergency Management Presidency) in Ankara in accordance with the TAMP (Turkish Disaster Response Plan). The 25 Working Groups assigned under TAMP immediately activated, initiating information flow and coordination efforts in their respective areas of responsibility.

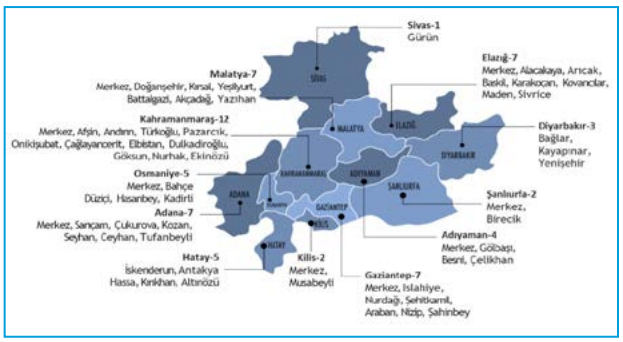
Following the earthquakes that affected the provinces of Diyarbakır, Elazığ, Gaziantep, Hatay (Antakya), Kilis, Kahramanmaraş, Malatya, Osmaniye, and Şanlıurfa, AFAD (Disaster and Emergency Management Presidency) created earthquake record number 20234600032 through the Disaster Management and Decision Support System (AYDES). The disaster level was initially determined as Level 3 (National Level) in the first few minutes, but it was updated to Level 4 (International Level) at 05:26.



Search and rescue teams were promptly dispatched to the scene to initiate search and rescue operations, attempting to respond to the situation. However, the second earthquake, centered in Kahramanmaraş Elbistan with a magnitude of 7.6 Mw, further complicated the efforts. The challenges posed by weather conditions and damaged roads were compounded by this second major earthquake, leading to additional collapses in already damaged buildings.

Despite all the difficulties, the effective intervention led by AFAD and international relief coordination initiated in the aftermath of the second earthquake garnered global attention.

In the management of the disaster, the AYDES (Disaster Management and Decision Support System) created by AFAD played a crucial role. Given that earthquakes centered in Kahramanmaraş were anticipated in scenarios previously developed through AYDES, the fastest intervention scenario was activated. Examining the data received through AYDES, intense destruction was observed in 11 provinces and 62 districts, with damage assessments conducted in a total of 21 provinces and 175 districts. Provinces such as Kahramanmaraş and Hatay, along with Osmaniye, Adana, Kilis, Adıyaman, Şanlıurfa, Diyarbakır, Malatya, Elazığ, and Sivas, were among the most affected areas.



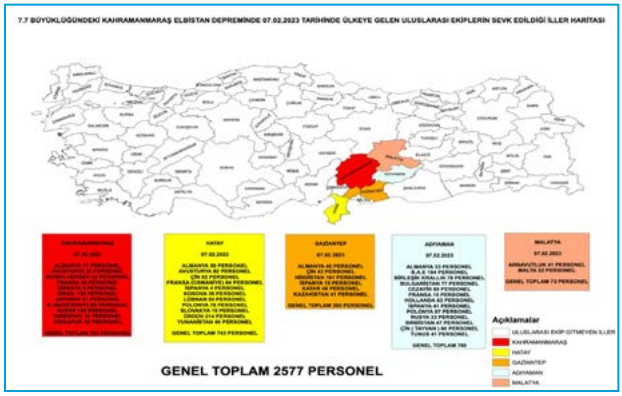
The impact area of the earthquake reached 120,000 km2, affecting 15 million people. In the aftermath of the earthquake, neighboring country Syria lost 6,000 lives, and hundreds of homes were destroyed. In Lebanon, houses suffered damage due to the intensity of the tremors, while in Iran, Iraq, and Egypt, people felt the earthquake and evacuated their homes. According to experts, these earthquakes, occurring approximately 9 hours apart, are an unusual and rare natural disaster. The affected area of the earthquake is so vast that it surpasses the land area of 8 European countries, and the affected population is higher than that of 6 European countries. Following the disaster, 50,096 people lost their lives, and 107,204 people were injured.

4.2 International Cooperation

The disaster witnessed a significant display of international solidarity. Following AFAD's elevation of the disaster to Level 4, communication was established with INSARAG (International Search and Rescue Advisory Group), EU ERCC, and NATO EADRCC (Euro-Atlantic Disaster Response Coordination Centre). An emergency call was made via Virtual OSOCC, and international assistance was announced globally, in accordance with the INSARAG methodology for Urban Search and Rescue (USAR) team support.

To ensure the immediate commencement of international search and rescue operations, members of the the United Nations Disaster Assessment and Coordination (UNDAC) took their positions at the AFAD Emergency Management. As a result of collaborative communication between AFAD and INSARAG, Reception and Departure Centers (RDC) were established at Adana Şakir Paşa and Gaziantep Airports. This facilitated the rapid deployment of international search and rescue assistance to the operational areas, along with necessary logistical support.

Figure 9: Provinces to which the international teams arriving in the country on 07.02.2023 were shipped



During the 12th hour of the earthquake, a UCC was established in Hatay to manage the efforts of the INSARAG teams deployed to the field. AFAD quickly provided the necessary logistical support to the teams, ensuring that they felt at home while carrying out their operations.

The earthquake most severely affected six provinces, especially Kahramanmaraş and Hatay, where a total of 11,320 Search and Rescue

personnel and 306 K9 search and rescue teams from 90 countries participated in the rescue efforts. As a result of the international Search and Rescue Teams' efforts, around 300 citizens were successfully rescued alive from the rubble. The international teams gained invaluable field experience during their 12-day operation, reinforcing the collaborative principles of INSARAG.

The dedication and altruism demonstrated by the international search and rescue teams in the field were met with gratitude by the local population. Love and appreciation for the teams were so profound that expressions of affection were organized for them at the airports. Considering the extensive impact area of the disaster, it was inevitable that some challenges and issues would arise. Successive major earthquakes resulted in increased rubble, as they collapsed buildings already heavily damaged in the initial tremor. Additionally, weather conditions and damage to roads further complicated access to the disaster zone. According to data obtained from the Ministry of Environment, Urbanization, and Climate Change, on the day of the earthquake, the entire country experienced the effects of a cold wave, particularly with the earthquake zone facing intense snowfall.

The heavy snowfall, freezing events, and damage to roads created difficulties in the transportation of AFAD teams and NGOs by road. Despite these challenges, the teams managed to reach the earthquake-affected areas.

Due to a crack on the runway at Hatay Airport, direct air transportation to Hatay province could not be established on the first day of the earthquake. As an alternative route, Adana Şakir Paşa Airport was utilized. Search and Rescue teams landing in Adana were swiftly deployed to the region with the support provided by AFAD, initiating their operations promptly.

4.3 Disaster Response Operations

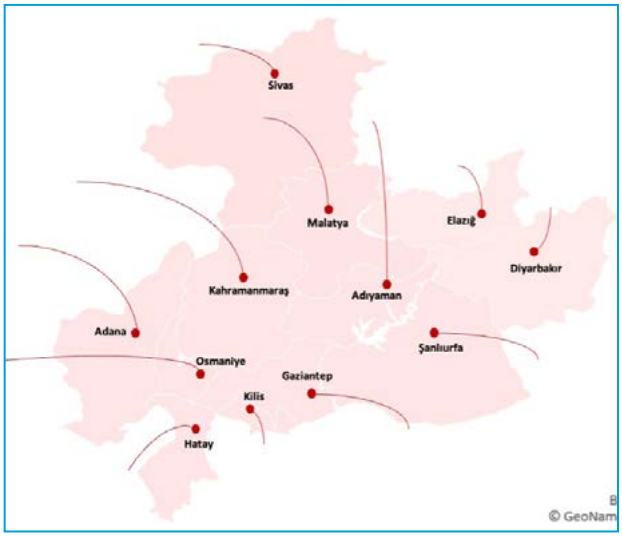
Türkiye, being a country with active earthquake faults and high seismicity, has accumulated significant knowledge and experience in disaster response. Through collaborative efforts led by AFAD (Disaster and Emergency Management Presidency) with universities across the country over the years, the Turkey Disaster Response Plan (TAMP) and Provincial Disaster Risk Reduction Plans (İRAP) have been developed.

According to TAMP, support provinces (1st and 2nd Group) have been identified for each affected province in case of a disaster. Following the plan, support provinces were mobilized from the zeroth minute of the earthquake. Responsible personnel gathered at Provincial Directorates, completed vehicle and inventory preparations, and, under the coordination provided by AFAD Presidency, moved to the region.

During this process, it was decided to transport AFAD teams from distant provinces to the earthquake zone by air whenever possible. Many of these provinces were able to reach the earthquake zone by air, while nearby provinces swiftly traveled by road. In air transportation, cargo planes, rescue vehicles, and personnel from the Turkish Armed Forces provided a significant advantage. Besides military aircraft, teams were also sent to the region via Turkish Airlines flights.

The Provincial AFAD Directorates around the 10 affected provinces, under the guidance of the Disaster Management Center (AYM) Branch Manager, communicated with AYM Responsible and Gendarmerie, confirming that there was no

need for search and rescue operations in their own provinces after evaluating the risk in terms of both building stock and proximity to fault lines. Subsequently, they transitioned with all their resources to the regions they were responsible for.



4.4 NGOs and Other Public Institutions

Provincial AFAD Directorates issued a gathering call to Non-Govermental Organısations (NGOs) and Fire Departments in their regions, assessing that they had the minimum necessary material and technical equipment. Representatives of these organizations were urgently summoned to Provincial AFAD Directorates. Simultaneously, personnel and vehicle planning were requested from CSOs and Fire Departments.

From the very moment of the earthquake, AFAD Presidency reached out to Provincial AFAD Directorates. They requested the gathering of teams and the preparation of vehicles for disaster response. Information about which region they would be dispatched to was provided. Provincial AFAD Directorates, based on the received information, assembled their teams and prepared their vehicles. Communication was established with the Governors' Offices and Military Airports of their respective provinces for transportation to the regions they were to be deployed to. They started their journeys to the designated areas in coordination with AFAD Presidency.

AFAD Presidency also coordinated the search and rescue activities of certain public institutions in the disaster zone. The central direction of Search and Rescue teams, such as Gendarmerie Search and Rescue (JAK), Gendarmerie Commando Special Security Command (JÖAK), and Police Search and Rescue (PAK), as well as the completion of their equipment deficiencies, were carried out by AFAD Presidency.

4.5 Deployment Details

The deployment of AFAD Provincial and Regional Directorate personnel to the affected provinces through air travel took place between 06.02.2023 05:00 and 22:47. Thirteen provinces conducted their transfers via air travel, reaching their designated areas earliest at 06.02.2023 13:30 and the latest arriving team reaching the transfer location at 07.02.2023 14:00.

Countries offering assistance also traveled to the disaster areas by air. The teams worked in our country between 06.02.2023 and 18.02.2023. During this period, 255 teams and 11,320 personnel from these countries, particularly 93 teams and 3,312 personnel from European Union member countries, participated in search and rescue activities. As of 18.03.2023, most foreign teams and personnel who served in the disaster zone had returned to their respective countries.

For the personnel deployed to the affected provinces via land travel, departure from AFAD Provincial and Regional Directorates' Search and Rescue Regional Directorates occurred between 06.02.2023 04:30 and 08:00. The teams' arrivals to the designated areas ranged from earliest at 06.02.2023 05:00 to the latest arrival at 07.02.2023 02:20. Sixty-one provinces completed their transfers to the regions by land travel.

4.6 Overview of Intervention and Management

From the very moment of the disaster, AFAD Presidency established communication with Provincial AFAD Directorates and NGOs, conveying information about the teams' deployment to the region and the areas where the deployed units would operate. Taking into account the extent of damage in the provinces affected by the earthquake, maximum capacity teams and equipment were attempted to be provided for each province.

Our units were redirected to other debris or other provinces based on the conditions of capacity when search and rescue activities concluded in the debris they were initially assigned to. AFAD Presidency not only coordinated its own search and rescue personnel but also provided personnel and logistical support, including volunteers and NGO member search and rescue personnel. Additionally evacuation of injured and affected people coordinated by AFAD simultaneously with the deployment of USAR teams and other relief teams so nearly 2 million people evacuated from the area to the safe areas

The first transfer order was given on 06.02.2023 at 04:17, considering the distance to the operational area and the preparedness status of the teams. The latest transfer instruction was given by 05:30 on the same day. After receiving the instructions, Provincial AFAD teams swiftly completed their preparations and departed. Accordingly, all Provincial AFAD search and rescue teams had moved to the disaster zone by 06:00.

After our search and rescue teams reached their assigned areas, they promptly initiated operations. Simultaneously conducting debris listening and search and rescue efforts, they also coordinated volunteer groups and personnel from non-governmental organizations. Despite the magnitude of the disaster, which far exceeded the personnel and equipment resources available, our teams worked tirelessly and attempted to intervene in as many debris sites as possible.

From the initial moments of the disaster until the completion of search and rescue operations, records were kept for each team. The coordinates of the debris sites where our teams worked, the dates when intervention began at these sites, and the dates when the interventions concluded were compiled into a table. The entire process, including information about the individuals rescued alive and those retrieved as deceased from the debris, was meticulously tracked.

As known, there were power outages in the disaster area, rendering mobile devices inoperable. The mobile network and internet infrastructure were damaged, making it challenging to deploy and manage teams. Generators were dispatched to meet the energy needs of the region. Meanwhile, efforts began to repair the damaged power lines. Mobile communication vehicles were sent to the region, and attempts were made to minimize the adverse effects resulting from these shortcomings.

Search and rescue activities commenced in the early hours of the earthquake and were concluded on various dates proportional to the damage inflicted by the earthquake in the region. In Şanlıurfa province, search and rescue operations were concluded on 10.02.2023, while in Hatay province, they concluded on 28.02.2023.

As search and rescue teams departed the region, precautionary teams were left behind, considering the possibility of new earthquakes and aftershocks.

4.7 Conclusion and Future Perspective

The Kahramanmaraş earthquakes presented an extraordinary example of a disaster successfully managed through AFAD's effective leadership and international collaboration. AFAD's experience and swift intervention should be regarded as a reference for similar situations. Strengthening preparation and coordination for future disasters holds vital importance in coping with similar catastrophes.

In conclusion, the Kahramanmaraş earthquakes marked a turning point in emergency management and international aid coordination. AFAD's effective intervention and global solidarity played a pivotal role in overcoming the challenges of this challenging process. This tragic event provides a significant learning opportunity for the development and enhancement of future disaster management strategies.

Epilogue

By: Mr. Sebastian Rhodes Stampa,
INSARAG Secretary

The breadth of the Türkiye and Syria earthquakes tested the limits of international search and rescue operations, yet it also showcased the unwavering dedication and capability of the IN-SARAG network. From the swift mobilization of 49 INSARAG classified USAR teams to the tire-less efforts of local volunteers, the response exemplified the power of collective action in sav-ing lives and restoring hope in communities shattered by tragedy.

As the lifesaving operations phase wound down and international USAR teams returned home, INSARAG embarked on a months-long journey of reflection and growth from the events that unfolded. That fateful February underscored the critical importance of global cooperation and preparedness in the face of disaster.

Central to the success of the response was the exceptional leadership and coordination demon-strated by AFAD. Their seamless collaboration with INSARAG teams not only streamlined the international response but also underscored the importance of local preparedness and strong partnerships in maximizing the impact of humanitarian response.

The challenges encountered in Syria serve as a poignant reminder of the multifaceted nature of disaster response. As the INSARAG community delves into the AAR, it confronts the reality of complex emergencies where vulnerable communities face heightened risks. This highlights the need to adapt and evolve, exploring new avenues for collaboration and innova-tion to meet the growing needs of those affected by disasters.

Through rigorous analysis and candid dialogue, participants of the AAR event in Doha in Octo-ber 2023 examined both the triumphs and shortcomings of the response, identifying key areas for improvement and innovation. Set against the backdrop of INSARAG's four core pillars – qual-ity standards, localization, flexible response, and partnerships – this AAR report, will serve as a roadmap for enhancing coordination and effectiveness in international USAR assistance.

As INSARAG looks to the future, it does so with a renewed sense of purpose and accountability. The AAR recommendations will guide not only the Emergency Response Section of OCHA but the entire global network in strengthening disaster preparedness, enhancing local capabilities, and promoting collaboration at all levels. We in the INSARAG family must all be held accountable to take forward the recommendations outlined in this report—from the Secretariat to the working groups to the Troika and Global Chair—we all have a role to play to ensure that the lessons learned from this disaster will inform and improve how we respond to disasters in the future. INSARAG is fully committed to advancing accountability and collaboration in disaster response.

Much of this work has already begun. I rest assured knowing that this network is forward looking and embraces the challenges it faces. It is this rigor, humility, and determination that drives INSARAG forward.

INSARAG is a proven example of global collaboration for a shared purpose. Guided by humanitarian principles, thousands of rescuers from across the globe responded to Türkiye and Syria, working under international standards and guidelines developed over more than thirty years of disaster response. This response is no different. It will serve to inform and augment the way that this network operates. It will only improve the systems that are already in place and guide us to respond better in the next disaster.

INSARAG

Preparedness Response