Interoperability on a global events platform: The implementation of multi-agency response systems at sporting events and the implications for the FIFA 2022 Qatar World Cup

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Abstract

As Qatar approaches the 2022 FIFA World Cup, they look to their emergency response capabilities with a desire to develop and grow interoperable systems that are efficient and maximise life-saving potential. Mega-events have been established as both excellent opportunities and areas of heightened risk, a double-edged sword of potential and danger for host countries. Across the globe the sporting events space has utilised the core principles of interoperability to deliver secure events to millions of spectators across a wide range of events and locations, and interoperability is now an increasingly sought-after capability for many nations. The ability to demonstrate the ability to host mega-events on global platforms is valued by nations, and the possibility for such events to generate a legacy of best practice has seen transformative action taken by those with a mega-event on the horizon. This case study will examine some of these actions from various countries, and in doing so highlight how this could influence and inform the journey of Qatar as they adopt interoperable systems. Leading experts from the UK have contributed their experiences and contributions to interoperability, and their insight provides valuable lessons for multi-agency response systems such as those being developed in Qatar.

Learning objectives:

- To understand the different elements of interoperability that are implemented in preparation for sporting events
- To understand the importance of consistency and standardisation of training to ensure coherence across agencies
- To understand the necessity of rigorous training, exercises and collaborative learning when introducing interoperable values
- To understand the importance of underlying frameworks such as JESIP as a tool to drive change
- To explain how Qatar could use best practise when preparing for/delivering the 2022 FIFA World Cup.

Introduction

The announcement in 2010 that Qatar would be the host country of the 2022 FIFA World Cup focused the media spotlight onto their country and security capabilities which had been hitherto unprecedented. Alongside the knowledge that millions of spectators would flock to the country, there was also the understanding of the scale of global media scrutiny, and the double-edged sword of risk and opportunity that accompanies this.[1] The World Cup is being viewed not only as a great opportunity for the image of Qatar, but also as an event which will bring fresh challenges to Qatar as a nation.[2] Qatar needs to demonstrate to the world a capability to safely deliver mega-events, a clear understanding of lessons learned from previous sporting events, and to display a cohesive and united front between their emergency response agencies. Interoperability can be defined as '*the extent to which organisations can work together coherently as a matter of routine'.* [3] Interoperability is a tried and tested system across a wide range of events in differentiated environments, reliant upon clear communication between agencies in order to mitigate risk.[4]

Whilst documentation in other parts of the globe has been implemented to embed interoperable response systems that are efficient and rigorously tested, Qatar has yet to fully embed such methods within their policies and procedures. Looking to

[1] Abdullah Baabood, '*Qatar's Resilience Strategy and Implications for State–Society Relations'*, IAI WORKING PAPERS 17 | 36 - DECEMBER 2017 ISSN 2280-4331 | ISBN 9978-88-9368-065-3
[2] Polytimi Sofotasiou, Benjamin Richard Hughes, John Kaiser Calautit, Qatar 2022: Facing the FIFA World Cup climatic and legacy challenges, Sustainable Cities and Society, Volume 14, 2015, Pages 16-30, ISSN 2210-6707,
[3] JESIP, Edition 2, July 2016 https://www.jesip.org.uk/uploads/resources/JESIP-Joint-doctrine.pdf P.2 ACCESSED 29/4/20
[4] Mayer-Schoenberger, Viktor, Emergency Communications: The Quest for Interoperability in the United States and Europe (March 2002). KSG Working Paper No. RWP02-024. Available at SSRN: https://ssrn.com/abstract=313826 or http://dx.doi.org/10.2139/ssrn.313826

the success of JESIP (Joint Emergency Services Interoperability Principles) in the UK, Qatar is in a position whereby it can look to examples of good practice within interoperability, and apply this to its approaching role as hosts of a global mega-event. [5] There is no single blanket system of interoperability in the event space; instead there are a range of examples from around the globe, each adapted and tailored to ensure maximum effectiveness at their given event.

This case study will draw upon evidence from events within Europe, Asia and America in order to provide examples of the processes by which mega-events are safely delivered. It will draw upon the experience of industry experts and consultants who have played integral roles in the formulation and delivery of interoperable emergency response systems at mass gatherings across different events sectors, driving best practice in multi-agency planning. From these successes there are identifiable 'next steps' for Qatar to ensure that they have a fully embedded interoperable culture in their emergency response agencies ready for the 2022 FIFA World Cup.

Qatar FIFA World Cup 2020 - A catalyst for development in Qatar

The decision to award the 2022 FIFA World Cup to Qatar acted as a great catalyst for internal reflections upon the emergency response capabilities of the country.[6] An estimated three billion people will watch the World Cup, through a mixture of physical spectators, as well as through a multitude of media outlets

[5] JESIP, Edition 2, July 2016 https://www.jesip.org.uk/uploads/resources/JESIP-Joint-doctrine.pdf P.2 ACCESSED 8/6/20

[6] Tim Cutbill, Director, Protect and Prepare Ltd., Interviewed 5/6/2020

broadcasting and streaming the event.[7] Mega-events such as this carry with them the chance for a country to showcase its strengths, assert its position as a global influencer, and build a prestigious reputation as able and successful hosts. Events such as the FIFA World Cup have gained significant symbolic importance in recent decades, alongside social, economic and political importance as well.[8] However, these events also create environments in which the most serious and scrutinised incidents can occur under the spotlight of the global media. Therefore, there is a necessity for the host country to deliver these mega-events safely and ensure the protection of participants, spectators and stakeholders.[9]

The risks involved in hosting such events have been a major concern for the host country, and often bring issues of emergency response capabilities to the fore.[10]. Accompanying the underlying core requirement to safely deliver events, with thoroughly tested and quality assured response systems, is the need to present an image of strength, preparedness and capability to the global scrutiny that accompanies such events. The concept of interoperability was, until this point, relatively unexplored within Qatar, a factor which Qatar is looking to address and develop in the build-up to the 2022 FIFA World Cup. The anticipated global interest, combined with the expected influx of international spectators, has focussed attention on emergency practices within the region. With the expectation that the FIFA World

[7] FIFA, 'More than Half the World Watched the Record Breaking 2018 World Cup' https://www.fifa.com/worldcup/news/more-than-half-the-world-watched-record-breaking-2018-world-cup ACCESSED 12/6/2020

[8] Diamantis Mastrogiannakis & Christian Dorville (2013) Security and sport mega-events: a complex relation, Sport in Society, 16:2, 133-139, DOI: 10.1080/17430437.2013.776246

[9] Richard Giulianotti & Francisco Klauser, *Sport mega-events and 'terrorism': A critical Analysis,* International Review for the Sociology of Sport, June 47, issue 3, 307-323, 2012

[10] Philip C. Chang, Kiren K. Singh, *Risk management for mega-events: The 1988 olympic winter games*, Tourism Management, Volume 11, Issue 1, 1990, Pages 45-52, ISSN 0261-5177,

Cup will be delivered with the same standards, values and capabilities of interoperability displayed on the global stage at other mega-events, Qatar is now in a period where it is redefining its protocols and practices to produce a world-class operating environment.

Qatari authorities are now driven to embed principles such as those that underpin JESIP, through thorough testing and gap analysis, as they now face the necessity of rehearsing the multitude of scenarios that could occur during test events or during the World Cup in 2022.[11] The possibility of life-threatening incidents is greatly increased during mega-events, as well as the complexity of environments or nature of casualties which could be involved. Indeed, the nature of risk at mega-events has been called '*peculiar and extensive'* in acknowledgement of how far beyond the 'ordinary' safety agencies are required to operate.[12] To successfully run a mega-event requires a wide range of stakeholders and agencies, and they must be cohesive and coordinated in their learning around successful interoperable practice.

Culture of emergency services in Qatar and what this means for interoperability

The approaches and values of JESIP regarding multi-agency response are being explored but are not fully embedded within Qatar and the wider MENA region.[13] The journey of creating, implementing and then entrenching interoperability

[11] Tim Cutbill, Director, Protect and Prepare Ltd., Interviewed 5/6/2020
[12] Murakami Wood, D., Abe, K. (2011) The spectacle of fear: anxious events and foreign threats in Japan, in: Bennett, C., Haggerty, K. (Eds) Security Games: Surveillance and Control at Mega-events, pp. 72–86. London: Routledge.
[13] Tim Cutbill, Director, Protect and Prepare Ltd., Interviewed 5/6/2020

is a process which had taken years of development within the UK. Qatar is at the 'beginning of this journey'.[14]

The three main emergency services (Police, Fire and Ambulance) exist as single entities; with defined and separate priorities, purposes and protocols, often operating on self-defined objectives/projects. Evidence from interoperability experts visiting the region has demonstrated that, in some circumstances, this approach led to responders operating under conflicting priorities, orders and objectives, thereby hindering the ability of agencies to perform their roles effectively.[15]

Interoperability has not typically been an area explored or widely practised in the MENA region, and gap analysis for large scale incidents highlighted that improvements could be made regarding coordination between agencies.[16] Interoperability is vital for efficient and effective response in incidents of all sizes, but particularly for large scale events or incidents where the potential for mass casualties and difficult environments can complicate the operations of each agency. For example, within mega-events or large stadiums, a fire can be complicated by narrow aisles, seating arrangements or mass evacuation routes. Similarly, coordinating the evacuation or treatment of thousands of spectators in environments that may be smoke-filled or structurally unstable further complicates the actions of each response agency. The need for emergency responders to transform from independent entities

[14] Tim Cutbill, Director, Protect and Prepare Ltd., Interviewed 5/6/2020
[15] Tim Cutbill, Director, Protect and Prepare Ltd., Interviewed 5/6/2020
[16] Mark Scoular, Director, Protect and Prepare Ltd

into a cohesive response team with consistent and integrated procedures is vital for ensuring the maximum response capability is reached.[17]

Interoperability and the command system: Learning from JESIP

Interoperability builds upon a layered command structure; with commanders working at Bronze, Silver or Gold levels, in line with clear responsibilities and authority in responding to incidents. This tiered approach was entrenched into UK law with the Civil Contingencies Act of 2004 and had thus been practised for many years before the implementation of JESIP.[18]

These tiers, and the resulting autonomy afforded to each layer, are crucial for crews on the ground and their ability to 'make the right decisions' during an incident.[19] Evidence from workshops delivered to Qatari responders by industry experts demonstrated that Bronze and Silver Commanders did not always feel entrusted or empowered to make decisions at incidents which can result in the loss of precious time during the initial response phase of an incident, as responders are waiting for permission or direction in mitigating risk.[20] For example in the UK model

[17] Steven Curnin, Christine Owen, Douglas Paton, Benjamin Brooks*, A theoretical framework for negotiating the path of emergency management multi-agency coordination*, Applied Ergonomics, Volume 47, 2015, Pages 300-307, ISSN 0003-6870

[18] United Kingdom government, Civil Contingencies Act, 2004 http://www.legislation.gov.uk/ukpga/2004/36/contents

[19] Saif Alawadhi, Chika Udeaja, *Obstacles and Benefits in implementation of Gold, Silver, and Bronze (GSB) Model in Emergency Response in the UAE*, Procedia Engineering, Volume 212, 2018, Pages 427-434, ISSN 1877-7058,

[20] Mark Scoular, Director, Protect and Prepare Ltd, Interviewed 7/6/2020

Gold commanders do not attend incidents but provide strategic direction with Silver and Bronze commanders being entrusted to implement the plans as they deem fit.[21]

Within the JESIP framework, the most senior commanders take on a role of command and control at a remote site, focusing on the collaborative process of information gathering, sharing and coordination amongst commanders from the other response agencies. Iterations of such command structures can be applied cross-functionally for events, although certain aspects of functional command do not lend themselves to remote application. For example, tactical and operational command is more effective at the scene of operations, whereas strategic command may be performed remotely. The JESIP command structure is outlined in Figure 1. In order for Qatar to fully embrace interoperability, the culture of command may need to change, and instead follow those recommendations of JESIP.

[21] JESIP, Edition 2, July 2016 https://www.jesip.org.uk/uploads/resources/JESIP-Joint-doctrine.pdf P.2 ACCESSED 8/6/20

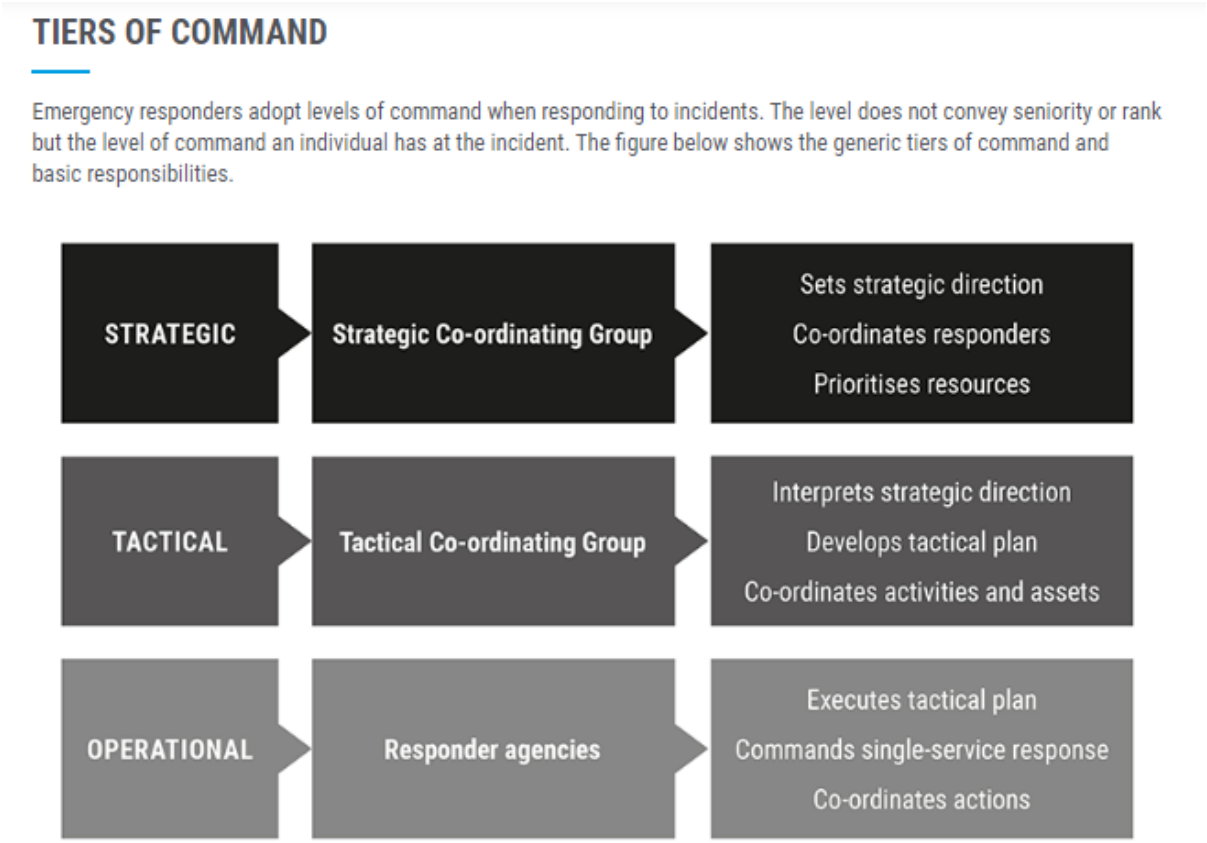

Figure 1 - The JESIP Gold (Strategic), Silver (Tactical) Bronze (Operational) Commander outline

Source: Author

The Asian Games 2018: JESIP and cultural adaptation

In preparation for the 2018 Asian Games, experts in interoperability and JESIP from the UK visited Indonesia to offer assistance in adapting multi-agency response systems within the region.[22] The Games offered an excellent opportunity for Indonesia to present an image of a country both capable of hosting such events and also leading the way for South East Asia in adopting interoperability and best practice.

[22] Capacity Building Lead for UK Systems, Advisor to 2018 Asian Games, Metropolitan Police, Interviewed 01/7/2020

The Asian Games 2018 context

The Asian Games is a multi-sport event that takes place over several weeks in the Asian continent once every four years, claiming to be the biggest sporting event worldwide with 12,000 athletes competing.[23] In 2018 the eighteenth iteration of these Games was due to take place in the cities of Jakarta and Palembang within Indonesia. Indonesia had faced challenges in the preceding decade, with over 900 militants arrested on terrorism charges between 2005-2015.[24] This context, combined with a recent history of natural disasters meant that Indonesia turned its eye to their emergency response capabilities, particularly mindful of the intense scrutiny that follows being a host country.

Similar to most areas in Asia, interoperability was not an embedded or widely explored practice, and response agencies typically operated independently with limited collaboration.[25] They also had a traditional hierarchical command structure, like that in Qatar, which did not lend itself to the 'collegiate' nature of interoperability.[26]

Adopting interoperability into hierarchical systems

The most important element of the assistance offered by the UK JESIP experts in preparation for the event came through collaboration with the Indonesian

[23] FEI, The Asian Games Information https://inside.fei.org/fei/games/cont-reg-games/asian
[24] Sukabdi, Z. A. (2015). Terrorism In Indonesia: A Review On Rehabilitation And Deradicalization. *Journal of Terrorism Research*, *6*(2). DOI: http://doi.org/10.15664/jtr.1154
[25] Capacity Building Lead for UK Systems, Advisor to 2018 Asian Games, Metropolitan Police, Interviewed 01/7/2020
[26] Capacity Building Lead for UK Systems, Advisor to 2018 Asian Games, Metropolitan Police, Interviewed 01/7/2020

authorities. It was made clear that JESIP had by no means appeared overnight fully formed and perfected, and that the UK had been through its own 'growing pains' in establishing a doctrine of multi-agency response.[27] Doing so was integral for encouraging an Indonesian review of their hierarchical structure; if JESIP has been positioned as a 'one fit' solution to all preparedness planning then it would remove the important positive relationship and dialogue that encouraged the country to adapt some of the interoperability practices.[28]

Commanders at senior level were initially addressed in table-top exercises; here the principles of JESIP could be explained and discussed, which was successful in that commanders focus on saving lives, meant they embraced the core of the doctrine, seeing it as an efficient response system with multiple benefits.[29] Through this, ideas around dissemination of decision-making powers, autonomy for tactical responders, and remote command were able to also be introduced. This saw the empowerment not only of commanders lower down the hierarchical system, but also of the fire and ambulance services who had not been as involved in formulating command systems as the police had been.[30]

The ability of the UK consultants to utilise their own experiences of challenges and ongoing areas of improvement for JESIP, allowed them to disseminate

[27] Capacity Building Lead for UK Systems, Advisor to 2018 Asian Games, Metropolitan Police, Interviewed 01/7/2020
[28] Mark Scoular, Director, Protect and Prepare Ltd, Interviewed 7/6/2020
[29] Capacity Building Lead for UK Systems, Advisor to 2018 Asian Games, Metropolitan Police, Interviewed 01/7/2020
[30] Capacity Building Lead for UK Systems, Advisor to 2018 Asian Games, Metropolitan Police, Interviewed 01/7/2020

knowledge in a constructive manner, whereby commanders were not made to feel threatened by an imposition of new ideals, but instead enthusiastic to trial new ideas as a means of improving the quality of response by their agency when operating in emergencies.[31] Of course, this is an ongoing development, as are many areas of interoperability around the world. The command structure was not entirely revolutionised overnight, but instead helpful and relevant guidance was offered, whereby the adoption of interoperability could begin to take place.[32]

This example is especially pertinent for Qatar, where they too have begun a journey into interoperability, and look toward developing and embedding the culture of multi-agency response into their practice both for, and beyond the FIFA 2022 World Cup.

Classroom workshops: Grasping the core values of interoperability

The nature of how interoperability has been developed means that there is a necessity for responders to gain an understanding of the core concepts and values embedded into doctrines, before they can begin rehearsing the practicalities. An example of the core principles of JESIP, and interoperability, can be seen in Figure 2. Failure to understand, or place value onto these principles in the minds of those involved in emergency response will ultimately weaken the efficiency of the system. Testing cannot take place unless those coordinating and, ultimately, those decision-making, hold a clear understanding of the theory behind multi-agency response.[33]

[31] Capacity Building Lead for UK Systems, Advisor to 2018 Asian Games, Metropolitan Police, Interviewed 01/7/2020
[32] Mark Scoular, Director, Protect and Prepare Ltd, Interviewed 7/6/2020
[33] Mark Scoular, Director, Protect and Prepare Ltd, Interviewed 7/6/2020

Figure 2: Core principles as outlined by JESIP

Source: Author

Table-top exercises and learning are vital for implementing interoperability. They act as a way of introducing new ideas and structures and are necessary to ensure organisational learning is taking place. This classroom environment forms an important forum not only for learning, but for developing a bespoke multi-agency approach tailored for that country specifically.[34] It is also in this environment that the industry experts and consultants are able to form positive relationships with

[34] Ian Frost, Associate for Protect and Prepare Ltd., Interviewed 4/6/2020

responders, thus generating enthusiasm and confidence in the lessons of interoperability themselves.[35]

This environment works particularly well in offering theoretical decision-making scenarios. By giving groups of responders from across agencies theoretical 'incidents' they can collaborate, communicate and cooperate to decide on what best course of action would be. It has been recommended in studies that cooperative learning *'should account for 60-80%'* of classroom-based learning, and this is also

Figure 3: Commanders use table-top discussion to develop understanding of multi-agency values and methods

Source: Author

true when applied to workshops around interoperability.[36] This cooperative

[35] Ian Frost, Associate for Protect and Prepare Ltd., Interviewed 4/6/2020

[36] David W. Johnson, Roger T. Johnson, Edythe Johnson Holubec, *Cooperative Learning In The Classroom, Association for Supervision and Curriculum Development, 1994 P.13*

classroom learning has been utilised in the planning stages of sports events as a means of not only teaching the theory of interoperability, but also to use cooperation to emulate the skills required at multi-agency incidents, in a smaller, low-stakes environment. This also creates an environment in which commanders can be assessed in their ability to explain the nature of interoperability, to quality assure the allocation of command levels.

An example of utilising table-top sessions for sporting events can be seen in the routine preparations that take place before the AELTC Wimbledon Championships.[37]

'From the planning stages, through table-top exercise we prepare as one team.' [38]

The Championship is attended by approximately 42,000 spectators each day, reaching around half a million across the event.[39] Over 3,000 media personnel attend the event, broadcasting matches to millions across the globe.[40] Security at the event has been '*tightened*' in-line with other mega-events from the mid-2000s, reflecting a greater need for well-prepared and trained response staff.[41]

[37] Event Safety Officer AELTC Wimbledon Championships., Interviewed 5/6/2020
[38] Event Safety Officer AELTC Wimbledon Championships., Interviewed 5/6/2020
[39] AELTC, Wimbledon Championships Stats and Figures https://www.wimbledon.com/en_GB/atoz/faq_and_facts_and_figures.html ACCESSED 1/7/2020
[40] AELTC, Wimbledon Championships Stats and Figures https://www.wimbledon.com/en_GB/atoz/faq_and_facts_and_figures.html ACCESSED 1/7/2020
[41] G. Mythen & S. Walklate, (2008). Terrorism, Risk and International Security: The Perils of Asking "What If?" *Security Dialogue*, *39*(2–3), 221–242. https://doi.org/10.1177/0967010608088776

Stewarding and security operatives used during the Championship, who may not experience serious incidents frequently in their day-to-day job, require clear policy, procedures and training to familiarise them to multi-agency response, and how they will fit into the collaboration for the duration of the event.[42] Thus ensuring that before any testing takes place, those who will be required to respond to an incident are not only all operating from the 'same page' but have also established an understanding of how they hold value in the interoperability process. Workshops include principles that have been developed through JESIP, discussion of how stakeholders beyond the three main stakeholders fit into the response picture, and potential complexities that may arise as a result of the mega-event. An example of such complexities could be the involvement of a VIP/athlete, increased media scrutiny, terrorist attacks, or a need for altered evacuation plans to accommodate the size of crowds.[43] The workshops enabled individuals to feel involved in the development, and to feel part of an important process whereby risk was being reduced, and the safety of spectators assured. Ideas around command structures and roles, communication and debriefing are all explored within workshops, with the aim of embedding these ideas into the normal practice of all agency responders, thus ensuring interoperable planning has formed the foundation of emergency preparedness for the entirety of the event.

[42] Event Safety Officer AELTC Wimbledon Championships., Interviewed 5/6/2020
[43] Event Safety Officer AELTC Wimbledon Championships., Interviewed 5/6/2020

Figure 4: AELTC Wimbledon Championships depends on successful learning to operate interoperability effectively. Leading industry expert Tim Cutbill emphasises; 'Inter-operability is hugely important at Wimbledon Tennis.'

Source: Author

Putting the learning into action: Live scenario training and testing

Testing the theoretical understanding of interoperability in simulated incidents is vital for identifying gaps in capability, and for familiarising individuals and agencies with their roles and responsibilities.[44] Learning these roles in principle is important for generating understanding, but the exercises are vital in practising autonomy for

[44] House, A., Power, N. & Alison, L. A systematic review of the potential hurdles of interoperability to the emergency services in major incidents: recommendations for solutions and alternatives. *Cogn Tech Work* **16,** 319–335 (2014). https://doi.org/10.1007/s10111-013-0259-6

bronze and silver Commanders, for getting a realistic assessment of how much learning had taken place, and for identifying areas for further development.[45]

Through rehearsing the theory they had been taught in the classroom, they could visibly watch improved performance and efficiency through working together. There is an established need for '*crucial use of simulations based on real life for preparing people to deal with stressful and challenging situations in their work'.*[46] This is especially true of mega-events, whereby responders may be faced with incidents beyond the scope of their routine training.

One example of the importance of consistent and thorough testing was that of the London 2012 Olympic Games. In the build-up to events, each venue had simulated incidents in which response staff could rehearse their multi-agency approach. In some venues this testing took place on a daily basis, with each day presenting an entirely new and differing challenge to the last.[47] Through this training '*we really clearly developed an idea of target areas for rapid solutions*' meaning that by the time of the event, areas of development had been reinforced and refined.[48] These exercises included scenarios such as fires, explosive devices within spectator areas and smoke-filled environment operations, refining and embedding evacuation plans into '*muscle memory*.'[49]

[45] Mark Scoular, Director, Protect and Prepare Ltd, Interviewed 7/6/2020
[46] Taber, N. (2008). Emergency response: Elearning for paramedics and firefighters. *Simulation & Gaming*, *39*(4), 515–527. https://doi.org/10.1177/1046878107306669
[47] Station Commander, West Midlands Fire Service, Interviewed 23/5/2020
[48] Station Commander, West Midlands Fire Service, Interviewed 23/5/2020
[49] Emergency Planning Lead in Construction/Destruction, Bronze Commander London 2012 Olympics, *Interviewed 9/4/20*

What made Olympic testing so effective was the level and depth of inclusion of the individuals involved in the exercises. The inclusion of stewards, venue staff and security agencies extended the range of persons that had not only been briefed for emergencies, but had actively had chance to rehearse their particular roles.[50] Testing therefore was '*Olympified'* in that not only were the scale and nature of the scenarios varied, so was the training of those beyond the usual sphere of routine interoperability exercises. What has been highlighted by commanders from these tests was the deliberate endeavour to ensure testing was as realistic as possible; where things '*went wrong*' they were left to organically develop, enabling the commanders to practice the need for high-pressure decision-making environments.[51] This rigorous system of testing ensured each individual venue was being protected by well-practised and quality-assured responders. Qatar will need rigorous, continual and critically evaluated testing to take place from now, during, and after the FIFA 2022 World Cup to ensure interoperability is embedded in their capabilities as an event host.

[50] Head of Emergency Planning for Metropolitan Police, Bronze Commander London 2012 Olympics, *Interviewed 8/4/20*

[51]Station Commander, Lead in Command Development Centre London Olympics 2012, *Fire Service,* Interviewed 29/4/2020

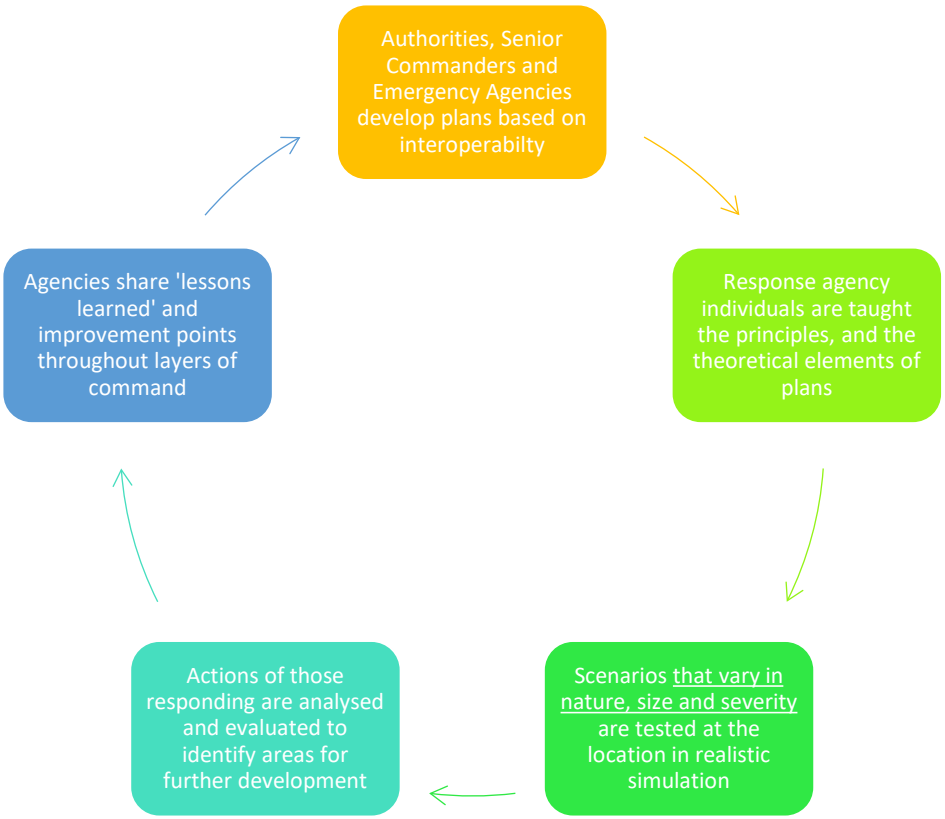

Figure 5: The process of live testing at the 2012 Olympic Games to ensure the capabilities meet the requirements of a mega-event

Source: Author

Responders fed back to their seniors that these exercises were '*an excellent way to learn*' as it gave them opportunity to experience scenarios beyond their usual skillset, thus they personally valued the ability to develop and grow as responders.[52] Many nations place the highest value on the testing aspect of interoperability, including the UK which states the need for: '*excellent training events from the point of view of experiential learning, helping participants develop confidence in their skills*

[52] Head of Emergency Planning for Metropolitan Police, Bronze Commander London 2012 Olympics, *Interviewed 8/4/20*

and providing experience of what it would be like to use the plan's procedures in a real event."[53]

Super Bowl Texas 2011: Mega-tests for mega-events

The outline of practices undertaken at venues of the London 2012 Olympics highlights good practice 'on the ground' where mega-events are to take place. What was observed by industry experts in Texas 2011 in the build-up to the Super Bowl is evidence of how testing is being elevated and enhanced through collaboration with academic institutions and large financial investment by authorities.[54]

Super Bowl 2011: Context

Held in Texas at the Cowboys Stadium, the 2011 Super Bowl saw spectator numbers of 103,219 making it one of the largest single sporting events in the world. It has been argued that the Super Bowl is symbolic of '*American Capitalism*', and therefore as a treasured tradition is vulnerable to attack. It has also been noted that the scale of the event itself generates an environment by which mass fatalities are a very real possibility:

'The Super Bowl has become one of the world's most significant and influential sporting events by placing the participants and the host city on an international stage… By combining an event that attracts crowds attending the game numbering 70,000 to 100,000 with many more people revelling in the accompanying festivities

[53] UK Cabinet Office, *Emergencies: preparation, response and recovery,* February 2013 https://www.gov.uk/guidance/emergency-planning-and-preparedness-exercises-and-training ACCESSED 25/6/2020

[54] Chief Staff Officer, West Midlands Fire Service, Interviewed 24/6/2020

being hosted in cities who have large populations, it is easy to understand how mass fatalities could occur…'[55]

This focus on security and emergency planning has been greatly heightened since the attacks on the World Trade Centre on September 11th 2001, with the government classifying it as a *'national special security event.'*[56]

Ensuring testing meets the challenges of a Super Bowl

As a result of the classification as an identified high-risk event, interoperable testing and exercises in the USA have become an area of great investment and growth.[57] During a visit in 2011 to observe interoperable practice in relation to mega-events, UK responders witnessed the scale of testing whilst being introduced to Disaster City.

Disaster City is impressive for many reasons. The sheer scale of the testing environment sees 52 acres of simulated emergency scenarios; these included collapsed buildings, full-scale transport disasters, as well as rubble piles from destroyed movie theatres and malls.[58] Disaster City is an enormous testing facility developed by Texas A&M Engineering Extension Service, a state agency that has endeavoured to generate environments that are reflective of the scale and nature of

[55] John Miller Phd, Texas Tech University, Frank Veltri Edd, University Of Colorado, Andy Gillentine Phd, University Of Miami, *Spectator Perception Of Security At The Super Bowl After 9/11: Implications For Sport Facility Managers,* The SMART Journal, Volume 4, Issue 2, Spring/Summer 2008

[56] Schimmel, K. S. (2011). From 'Violence-complacent' to 'Terrorist-ready': Post-9/11 Framing of the US Super Bowl. *Urban Studies*, *48*(15), 3277–3291. https://doi.org/10.1177/0042098011422396

[57] Chief Staff Officer, West Midlands Fire Service, Interviewed 24/6/2020

[58] TEEX, Texas A&M University, Disaster City Information Page https://teex.org/about-us/disaster-city/ ACCESSED 1/7/2020

mass casualty incidents. This has been made possible by the input of academic experts in the field of engineering, disaster management and construction from the Texas A&M University. This academic input has allowed increased precision and accuracy in testing, whether from the exact nature of how a building would crumble, to the impact of a train that has derailed. One UK visitor commented:

'It was fascinating to see the unison between Texas A&M University and TEEX. Their joint approach has allowed the development not only of realistic exercises, but of a well-rehearsed and experienced command structure. Through this, interoperability is being fine-tuned, not only in terms of those responders on the ground, but the experts and specialists formulating the systems themselves.'

This provides useful context and insight when considering planning for mega-events; the value of academic institutions is clear in elevating the real-world accuracy of testing and therefore generates better-informed structures and response systems. Qatar should look toward this type of academic relationship when building interoperable testing, as it will ensure the complexity of the FIFA 2022 World Cup requirements has been fully understood and mitigated.

Recommendations for interoperability success in Qatar for the 2022 FIFA World Cup

Expand the reach of the interoperability beyond emergency response agencies

One of the most important factors in ensuring the adoption of interoperability in Qatar resulting in an enduring and cohesive change across the region is the expansion of an interoperability doctrine into agencies beyond the emergency response units. This work has begun, with agencies such as the rail network building their practice around multi-agency principles, and modernising their own internal structures. If we take Qatar Rail as an example, the movement toward interoperability by authorities empowered them to liaise with emergency response agencies to add new layers of cohesion and coordination in rail-based incidents.[59] This process, driven by the demands of a mega-event on transport agencies, should be expanded into all stakeholders involved with not only the FIFA 2022 World Cup, but the day-to-day operations of Qatar. Communications agencies, transport agencies and military organisations need to all be inducted into the training processes alongside emergency services, to ensure that all stakeholders within the country are united in speaking the interoperability language.[60]

[59] Michiel Lombard, Snr. Manager: Security, Emergency & Crisis Management, Qatar Railways Company, Interviewed 17/6/2020

[60] Tim Cutbill, Director, Protect and Prepare Ltd., Interviewed 5/6/2020

Continue to fund and invest in growing interoperability

The work around interoperability to date has been largely successful due to the action and enthusiasm of SOMOD (National Security Directorate) and the other authorities with Qatar. Their willingness to consult with international specialists and to provide dedicated resources to ensuring the success of interoperability will be vital to ensure the longevity of this approach. At present, this focus has been driven by the FIFA 2022 World Cup, but it is important to look beyond the event and build three- to five-year plans for the dissemination and testing of interoperability principles.[61]

Continued consultation with industry experts, alongside frequent review and evaluation will embed interoperability into not only the heart of agency protocol, but also Qatari emergency response. The successful implementation, improvement and growth of multi-agency response could position Qatar as a leader in the MENA region, and the constructive input of subject matter experts, such as that for the 2018 Asian Games, will be necessary to guide this process. In doing so, Qatar will establish a reputation not only for the delivery of events in a safe and secure manner, but also position themselves to guide the MENA region in adopting further good practice that will facilitate the growth of the events industry in the region. Familiarity with preparedness through interoperability will, over time, establish itself as routine practice in event planning, meaning the process will become more streamlined and efficient, reducing both cost and difficulty in organising events.

[61] Tim Cutbill, Director, Protect and Prepare Ltd., Interviewed 5/6/2020

Ensure live testing is carried out at a high standard

All mega-events mentioned in this study rely on thorough and frequent testing to ensure the principles and systems being utilised are effective in mitigating risk. This realistic, large-scale testing must be continued on a regular basis, not only to entrench interoperability into '*muscle memory'*, but also to develop the range of scenarios in which Commanders have experience of making decisions.[62] This will allow a safe platform to challenge the traditional command structure, as embedding an efficient multi-agency response system relies upon the ability of senior Commanders to refrain from giving the '*on the ground orders'*.

If testing reverts to a single-agency approach, or to prescriptive tactical orders down a linear chain of command then the progress toward FIFA 2022 World Cup preparedness could be limited. It is important that testing exercises are comprehensive, bringing together not only the main emergency response agencies, but also those wider stakeholders looking to adapt the principles. This would include venue staff, communications companies, transport agencies, stewards and media outlets. Inclusivity, frequency and quality of testing will all define the capability of agencies to collaborate effectively, and without this there is a lack of reversion to uncoordinated, and inefficient response systems.

Accessibility and dissemination

In order to effectively embed interoperability at all levels of emergency agencies the methods and systems of dissemination require careful consideration.

[62] Mark Scoular, Director, Protect and Prepare Ltd, Interviewed 7/6/2020

This is especially important in agencies that are bi-lingual in nature such as the Hamad Ambulance Service. Any principles, systems or training documents should be frequently observed, and easy to digest for current and future staff. The use of visuals around stations, workspaces and in response vehicles could all help to entrench the practice at the forefront of responders thinking and reinforce the unified support for the doctrine from the authorities.[63]

It is important that training can be delivered to new staff quickly, within a memorable and accessible format to ensure any staff/unit changes are seamless in their impact on the quality of interoperability. Training documents that are concise and accessible, but still achieve the desired level of quality will need to be standardised to ensure new recruits learn quickly, but also uphold standards.[64]

Conclusions

In conclusion, Qatar faces a fantastic opportunity to develop and enhance their emergency response systems, both as an event host and for day-to-day operations.

As they further develop their journey of interoperability, with the FIFA 2022 World Cup as a great catalyst for change, the values and principles of interoperability will be vital for generating tangible results within the region. The World Cup

[63] Ian Frost, Associate for Protect and Prepare Ltd., Interviewed 4/6/2020
[64] Ian Frost, Associate for Protect and Prepare Ltd., Interviewed 4/6/2020

continues to draw attention to the capabilities of Qatar, and through a combination of consultation with Qatari authorities, classroom workshops, and organic testing, the value of interoperability can not only be displayed, but embraced by those taking part. The previous nature of command in Qatar is now challenged with interoperable practice. This process can empower not only those immediate response agencies, but the wider stakeholders in event planning to embrace the new principles, and implement new systems aimed at delivering a safe, successful and enjoyable mega-event.

Similar to the UK, for Qatar to realise the full potential of their capabilities requires an embedded interoperable culture within all response agencies. It will only be successful with the continued support, investment and scrutiny of Qatari authorities to uphold the standards and principles at the heart of interoperability. Beyond the FIFA World Cup, Qatar has the opportunity to develop a legacy platform through which they can revolutionise their systems of disaster management and emergency response and, if given the necessary review and analysis, could entrench best practice that continues to grow and improve over time.

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Teaching Notes

1. **What reasons are there for a mega-event to change the practices and emergency response systems of a country?**

   -Increased scrutiny on the host country means they are likely to review current capability and identify flaws

   -The present challenges that are unusual or unprecedented to a region such as international crowds, VIP guests, mass movement of people within the region

   -Host countries may wish to present themselves as leaders/experts in the emergency response space to display their ability to host further events in the future.

2. **How could lessons from the work in Jakarta for the 2018 Asian Games be applied to Qatar for the FIFA 2022 World Cup?**

   - Traditionally the most senior commander would be at the scene giving direct orders; Gold commanders instead are remote and should focus on strategic aims and decisions, as opposed to tactical direction (this was challenged by interoperable principles)

   - Consultants/experts should not impose a dictation/criticism of existing structures but instead highlight the value and efficiency of disseminating autonomy to lower levels of command

   - The use of experience of going through the process of JESIP in the UK can create familiarity by sharing honest areas of challenge/concern that JESIP

overcame.

3. **Why are live training exercises important for learning? How is this especially pertinent in preparing emergency responders for the FIFA 2022 World Cup?**

   - Scenarios need to incorporate aspects that are potential risks to the mega-event to generate familiarity with those environments and considerations

   - It gives silver/bronze commanders the opportunity to exercise their newly-defined roles as decision makers so that they can get direct experience of leadership

   -The scale of testing; large amounts of resources dedicated to testing to enable realistic and complex scenarios to be built result in more accurate gap analyses.

4. **What is the importance of expanding interoperability beyond the three main response agencies when preparing for a mega-event?**

   - Mega-events increase strain on several agencies; transport, communication, retail, venue staff… all of these will need to be aware and involved in preparing interoperable responses to ensure a range of scenarios are covered

   - The day-to-day experiences of many of these staff will not often include large-scale incidents or evacuations; there must be familiarity and rehearsal of plans to ensure they run smoothly in the event of an actual incident.

5. **Look through the recommendations for success in Qatar in relation to a successful planning for the 2022 FIFA World Cup. Identify which factor**

you feel is the most significant, and justify your selection by explaining how it would enhance interoperability the most.