A CONSEQUENCE MANAGEMENT APPROACH
TO DISASTER MANAGEMENT: COORDINATING RESPONSE MANAGEMENT

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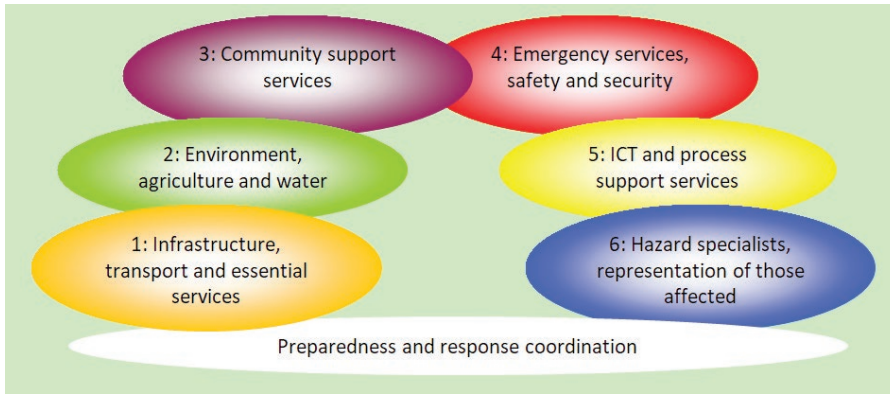
PART 5

Figure 1: Preparedness and response management clusters

The success of consequence management and an all-hazard preparedness and response is totally dependent on well-structured and efficient cooperation between multiple agencies. Such cooperation can be achieved through a joint management structure and a combined approach, which does not require a change of the structures of individual participating entities but rather enables them though providing horizontal cooperation mechanisms that cuts across organisational boundaries.

In the previous article we described response management and introduced the topic of coordination. This article continues the discussion of response coordination and will focus on the need and mechanisms for response coordination. As mentioned in the previous article, an example of a clustering approach to promote coordination is that provided in a disaster preparedness, response and relief plan developed for the Western Cape Government in South Africa. This clustering approach is illustrated in Figure 1.

The need for coordination is clear when one considers that the procedures adopted by each of the services in response to a major incident would understandably be devoted to the role of the service concerned. The purpose of coordinated plans is to describe the agreed procedures and arrangements for the effective coordination of joint efforts. Effective coordination during planning can ensure the overall response of the responding agencies will be greater than the sum of their individual efforts, to the benefit of the public (LESLP Major Incident Manual, 8th Edition).

Coordination is a word more easily said than done. Each hazard will require different lead and supporting agencies to develop preparedness and response plans. The same agency will lead in certain cases and support in other cases. Such a situation is fertile ground for clashes in approach and methodology because each agency may try to force its methodology onto other agencies. If no shared methodology exists, conflict will result. Such a shared methodology must be able to accommodate the different approaches of different agencies and existing coordination structures.

The following table indicates the cluster members assigned to each cluster.

Cluster number	Cluster Name	Possible cluster members (Summary)
C1	Infrastructure, transport and essential services	Water / Electricity / Sewerage / Transport / Roads / Stormwater / Housing / Building control / Public amenities
C2	Environment, agriculture and water	Environmental Management / Environmental Affairs / Nature Conservation / Agriculture / Water Affairs / Forestry / Land use planning and management / Development management
C3	Community support services	Home Affairs / Education / Health / NGO's / Social services / Community development workers / Tourism / Economic development
C4	Emergency services, safety and security	Fire and Rescue / Emergency Medical Services / Police / Law Enforcement / Traffic / Municipal Police / Defence Force / Sea Rescue (NSRI) / Disaster Management Volunteers
C5	Support services, information and communication technology	Telecommunications (Telkom) / Radio technical services / ICT Department / Finance / Logistics / Human resources / Audit / Fleet management / Communication (Media / Public)
C6	Hazard specialists, representation of those affected	Depends on hazard impacting, could include: Regulatory bodies or councils / Commerce and Industry / Parastatal / Academic Institutions / Economic development / Facility / Installation Representation / Community Representatives

Table 1: Example of role-player clustering for the purpose of coordination

A good example is the coordination responsibilities for safety and security as opposed to disaster management as it is practiced in South Africa and illustrated in Figure 2.

There is a substantial difference between what is security related ie war, crime, terrorism etc and what is disaster management related such as natural and human-induced disasters. Each of the above-mentioned entities have their own official coordinating structures, the security forces are coordinated through the National Security Council and Disaster Management through the Intergovernmental Committee on Disaster Management as illustrated in Figure 3.

Each of the above structures has distinct working procedures and methodology developed over time and within their own scope of practice. Depending on the hazard impact, the two coordination structures may work independently, parallel to each other or in close support of each other. In the absence of a single internal management system used by both parties, a joint management system that accommodates both without dictating internal procedures is necessary to achieve effective coordination.

In circumstances such as widespread violent social conflict, the Safety and Security structures would take the lead but will be supported by the disaster management structures when it comes to humanitarian support or the coordination of essential services in support thereof. In case of a natural hazard impact such as flooding, the disaster management structures would necessarily take the lead but with support from the safety and security

Figure 2: Coordination responsibilities for disaster management and safety and security linked to mandates for hazards

structures to ensure the maintenance of law and order.

Based on the one example above, it is clear that coordinated preparedness and response planning is complex due to the differing mandates related to different hazards for different organisations. All-hazard preparedness and response would, however, require many more stakeholders that just the two mentioned in the above example, with a resultant increase in complexity. A further complication is the levels at which preparedness and response must be coordinated.

There is disparity in command and control of the safety and security structures, disaster management structures and other line functions' command and control structures. The following matrix illustrates the difference between the mentioned command structures, especially at which level different stakeholders' decision-making powers peak. The matrix also indicates the different levels of decision making where coordination is required.

The complexity of preparedness and response planning and coordination is clear if one considers the combination of contrasting levels of decision-making, the many possible stakeholders that may be involved, each with their own internal peculiarities and command systems and the wide variety of hazards that may need to be addressed.

A further complicating factor that points to the need for coordination is the way in which risks manifesting at micro level interacts with the macro-level disaster risk profile and therefore preparedness and response planning requirements at the macro level. The converse is also true, as macro level risk profiles and risk dynamics will also influence and determine risks and therefore preparedness requirements at a micro level. In the example below the interaction between risks emanating from major event safety and security management and the risks identified through disaster ▶
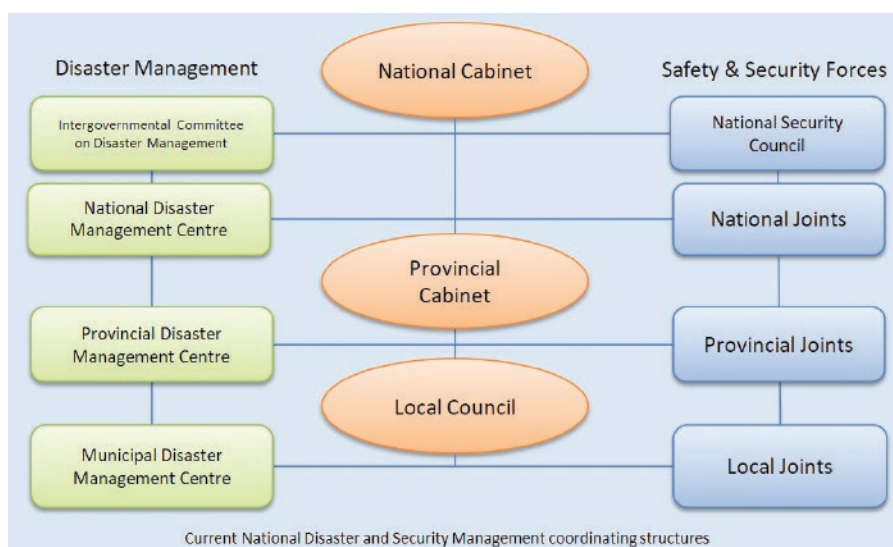

Figure 3: Disaster Management and Safety and Security Coordination Structures (PGWC, 2013)

Levels of decision-making	Disaster and Emergency Management					Safety and Security Management		
	Disaster Management	Emergency Medical Services	Fire Brigade Services	Other Services		SANDF (Defence)	SAPS (Police)	Traffic Law Enforcement
National Sphere – Strategic	☐			Depends on hazard		☐	☐	
Provincial Sphere – Strategic / Tactical	☐	☐	☐			☐	☐	☐
Metro/District Areas – Strategic / Tactical	☐	☐	☐				☐	☐
Municipal Sphere – Tactical / Operational	☐	☐	☐				☐	☐
Incident/ Event Scene - Operational	☐	☐	☐				☐	☐
Key:	☐	Level of decision-making						

Table 2: Stakeholders and levels of decision-making

management at a macro level is illustrated in Figure 4.

The complexities explained in the preceding paragraphs reinforces the previously stated need for a joint management structure and a combined approach ie joint response management system, which does not require a change of the structures of individual participating entities but rather enables them to coordinate their combined preparedness and response planning and operations through a single horizontal cooperation mechanism that cuts across organisational boundaries.

One attempt at such a cooperation mechanism is the Unified Command methodology contained within the well-known Incident Command System (ICS) developed in the United States. The Unified Command system within ICS assumes that all participating organisations will adopt the ICS methodology for their individual command systems and will agree to follow the prescripts of ICS to the letter. This assumption has been proven to be ambitious, as different agencies have followed their own paths of development and invested significant resources in their own approaches, which they feel are appropriate for them. There is a marked hesitation among especially military and security forces to change their operating standards to comply with the needs of other agencies. The solution to this problem has been suggested through the experience of the collective development of joint multidisciplinary incident management plans. It has become obvious that high levels of cooperation can be achieved at tactical and strategic level by establishing a joint response management structure and system that does not intrude on the line function procedures and lines of authority but allows peer-to-peer communication, decision-making and relationship building. The real goal with such a system is simply to get the appropriate level of leadership of participating agencies into one cooperative coordinating structure and enable rapid joint decision making. In this way different organisations, management levels and spheres of government can work together in a way that accepts and understands their individual uniqueness and works off their individual strengths.
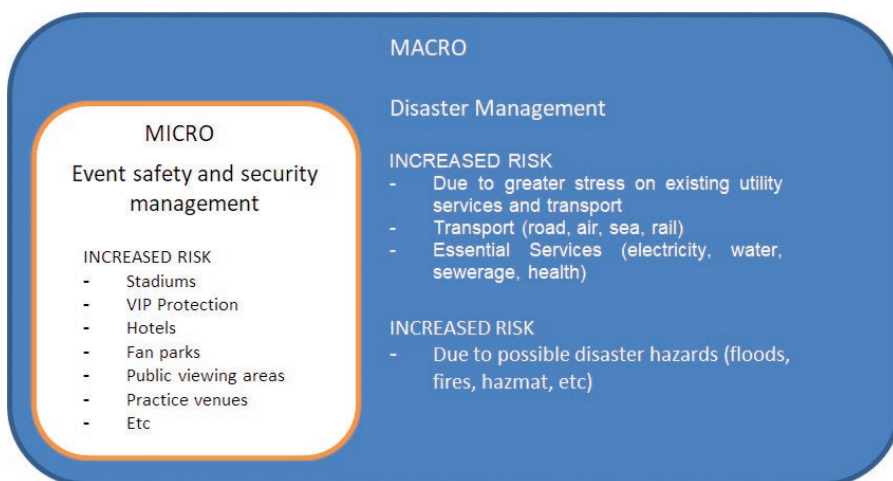
Figure 5 provides an example of one such system that establishes multidisciplinary coordination structures ie joint operations centres (JOCs) and venue/on-site operations centres (VOCs) at a national, provincial, municipal and venue/incident level. The red blocks indicate line functions, while the green blocks represent coordinating structures.

The example is the unified command structure from municipal to national level adopted by the National Disaster Management Advisory Forum for the 2010 FIFA World Cup in South Africa. This system was developed due to the absence of a comprehensive coordination system at the time. In the structure drawing, 'A, B, C, D, E'

MACRO

Disaster Management

INCREASED RISK
- Due to greater stress on existing utility services and transport
- Transport (road, air, sea, rail)
- Essential Services (electricity, water, sewerage, health)

INCREASED RISK
- Due to possible disaster hazards (floods, fires, hazmat, etc)

MICRO

Event safety and security management

INCREASED RISK
- Stadiums
- VIP Protection
- Hotels
- Fan parks
- Public viewing areas
- Practice venues
- Etc

Figure 4: The interrelationship between event- and disaster management results in complexity

NEW BUILDING FOR GAUTENG PROVINCIAL
DISASTER MANAGEMENT CENTRE LAUNCHED

The Gauteng Cooperative Governance and Traditional Affairs, in partnership with the Department of Infrastructure Development, launched the new Provincial Disaster Management Centre (PDMC) building situated in Midrand on 25 April 2019. MEC for the Department of Infrastructure Development (DID) Jacob Mamabolo handed the keys over to MEC of Cooperative Governance and Traditional Affairs (CoGTA) Uhuru Moiloa.

Head of the PDMC, Dr Elias Sithole, opened the event saying, "Disaster management is everybody's business and that the focus of disaster management is to be proactive and reactive. Dr Sithole mentioned recent disasters faced in the province and said that while the new building was being launched, many people were facing floods in Mozambique and Malawi.

Thandeka Mbassa, head of department for Gauteng CoGTA, welcomed the VIPs and expressed her appreciation for the attendance of the MECs, traditional leaders, SAPS representatives and colleague from various provinces.

MEC Jacob Mamabolo said that the DID bought the building on behalf of COGTA in 2016 and modernised it, using the latest green technology to make it adaptable to different weather. He added that R11 million has been spent to date.

denotes the different line functions, ie police, defence force, fire services, traffic services, ambulance service, utilities, etc that would be represented in the joint operations centres (JOCs) at national (Nat), provincial (Prov), municipal (Mun) and venue or incident level ie venue operations centre (VOC), essentially an on-site JOC.

The above structure developed informally over time due to experience in various previous major incidents and disasters but was not officially documented and approved at the time. During preparations for the Soccer World Cup, a national emergency plan was a legislative requirement and a hybrid unified command and multi-agency coordination system was subsequently developed to be included in the plan. The plan was adopted by the National Disaster Management Advisory Forum and included in the official Soccer World Cup emergency plan.

This concludes the discussion of the need for coordination and potential coordination mechanisms. There is a large body of additional research that refers to the development of multi-agency coordination systems (MACS) and joint
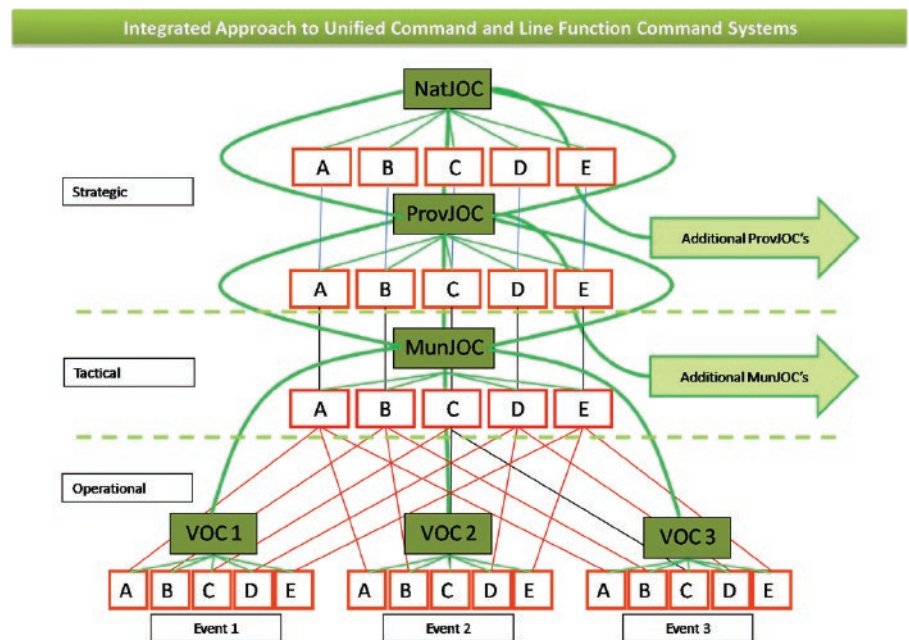

Figure 5: An example of a joint response management structure used for the 2010 FIFA World Cup (Carstens and Minnie, 2009)

response management systems such as ICS, MIMMS and others. To better understand how coordination is effected in disaster preparedness and response, the reader would be well advised to conduct further reading on these topics.

Moving forward from the need for coordination in preparedness and response, the discussion in the next article will focus on the assignment of responsibility within response coordination and the wider consequence management ecosystem.