

## Emergencies in England and Wales

The process of dealing with civil emergencies in England and Wales by Category 1 and 2 responders, is covered by the Civil Contingencies Act 2004 (CCA) supported by guidance from the Civil Contingencies Secretariat (CCS). To act in this way, the CCA and CCS assumes that

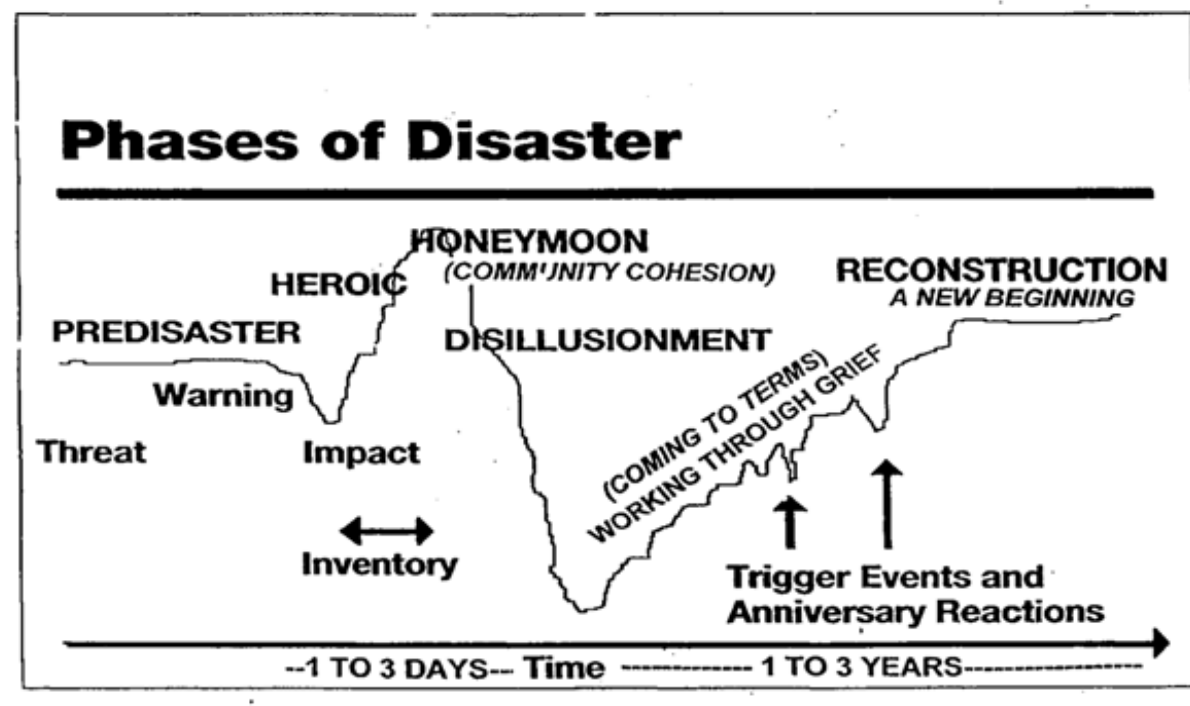
- Cat 1 and 2 responders behave similarly within their expected role;
- Disruptive events have similar trajectories from preparation to response and recovery;
- Impacted communities will respond in predictable ways and will have similar recovery requirements

The potential risks to communities are measured as a series of cascading risk assessments, from the National Risk Register down to the Community Risk Register covering Local Resilience Forum areas

The assessment method allows CCS to oversee a process that takes complex circumstances and transforms them into distinct and measurable risks. This reductionist approach allows linear arrangements to be developed to support the management of messy real world situations.

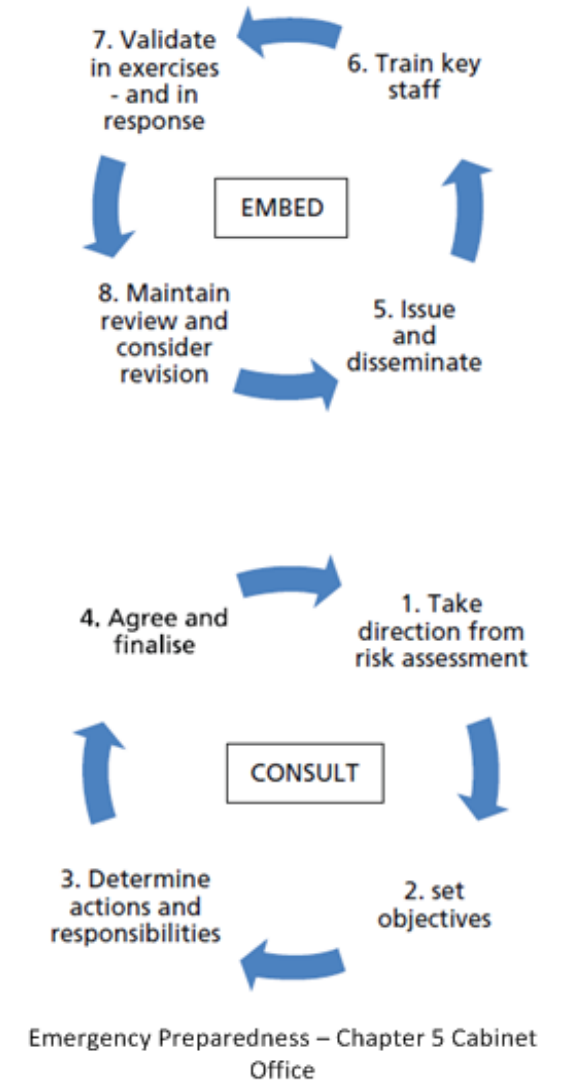
This research asserts that this approach does not enable responders and communities to work in partnership to understand and respond to the risks people face.

This poster explores whether synthesising the work of Gordon, Hollings and Gunderson provides additional insight into the concept of a resilient community and emergencies

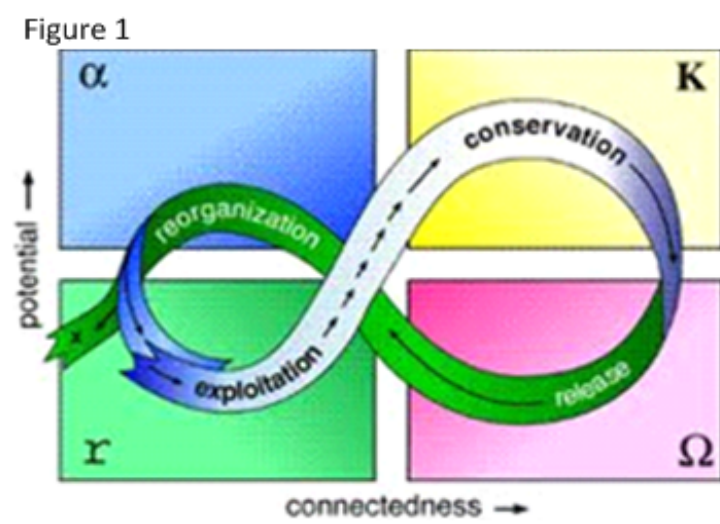


## Representing emergencies

- Diagrammatic representations of emergencies and resilience are prevalent throughout the practice arena.
- They impose a linear structure on emergencies reducing the complex and unmanageable into sequences of causes and effect.
- These shorthand, visual cues, assign arbitrary temporal aspects to emergencies and rely on the observer to use their professional knowledge to recognise the innate complexity.
- Useful as these are, they approach the emergency as something with a distinct form and identifiable characteristics and they are not equipped to communicate the complexities of an incident and its impacts.



In contrast, by using the work of Holling and Gunderson (2000) and combining it with Gordon (1990) it is possible to begin to represent the messiness that people experience when their everyday lives are impacted by an emergency.



## Destructive renewal

Figure 1 is the Mobius loop (Holling and Gunderson, 2000). This adaptive cycle allows changes within a non-linear socio-cultural system to be described across four phases

- Release** when an external disturbance releases the high level of connectivity within and between the system network bonds. The internal structure is broken down and the system undone. This can represent a tipping point
- Reorganization** follows, characterised by rapid growth and developmental evaluation. This phase is considered to be resilient or adaptive, but it can go through several reiterations and appear chaotic.
- Exploitation** begins as ideas crystallize and a more orderly, predictable phase begins. It is characterised by readily available resources and an increasing connectedness between the networks
- Conservation** takes place over an extended time-frame. Internal bonds are re-developed and re-aligned and networks within the system become more highly developed, regulated, entrenched and increasingly rigid. The high level of connectedness renders the system vulnerable to external disturbances.

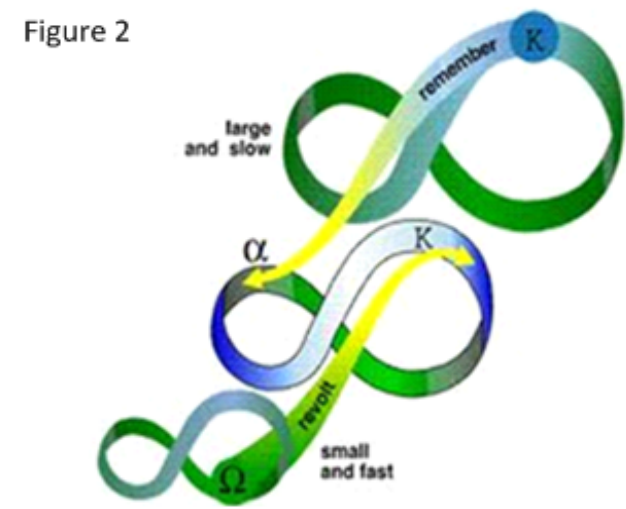


Figure 2 shows how the four stage adaptive cycle was further developed into panarchy, which seeks to capture 'the adaptive and evolutionary nature of cycles that are nested one within the other across space and time scales' (Gunderson, 2000).

The following diagrams take the concepts of panarchy and, based on the imagery of Gordon explores the impact of an incident on a community

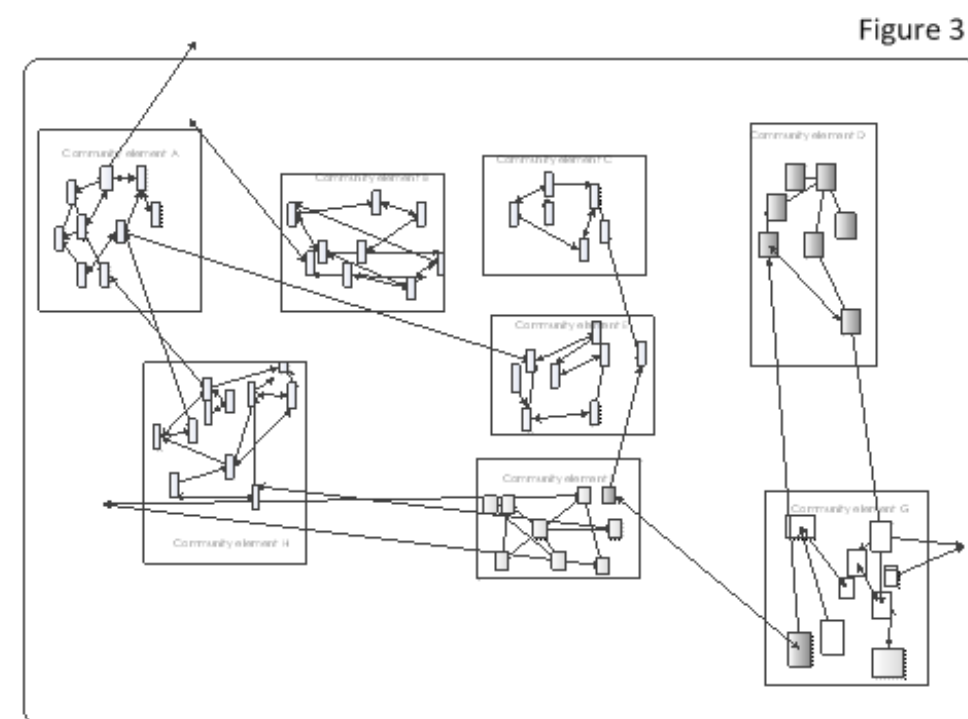


Fig 3 represents a community in the **conservation phase** of the adaptive cycle. It draws on the complexity science to visualise a macro-community as a 'place'; a neighbourhood comprised of community elements which are a series of nested elements i.e. individuals. The individuals are influenced by, and in turn influence others within their community element and this is represented as bonds. These are the everyday interactions of individuals and the people they depend on: the life-processes of their community elements. In this visualisation some community elements are more inter-connected than others, and some are un-connected

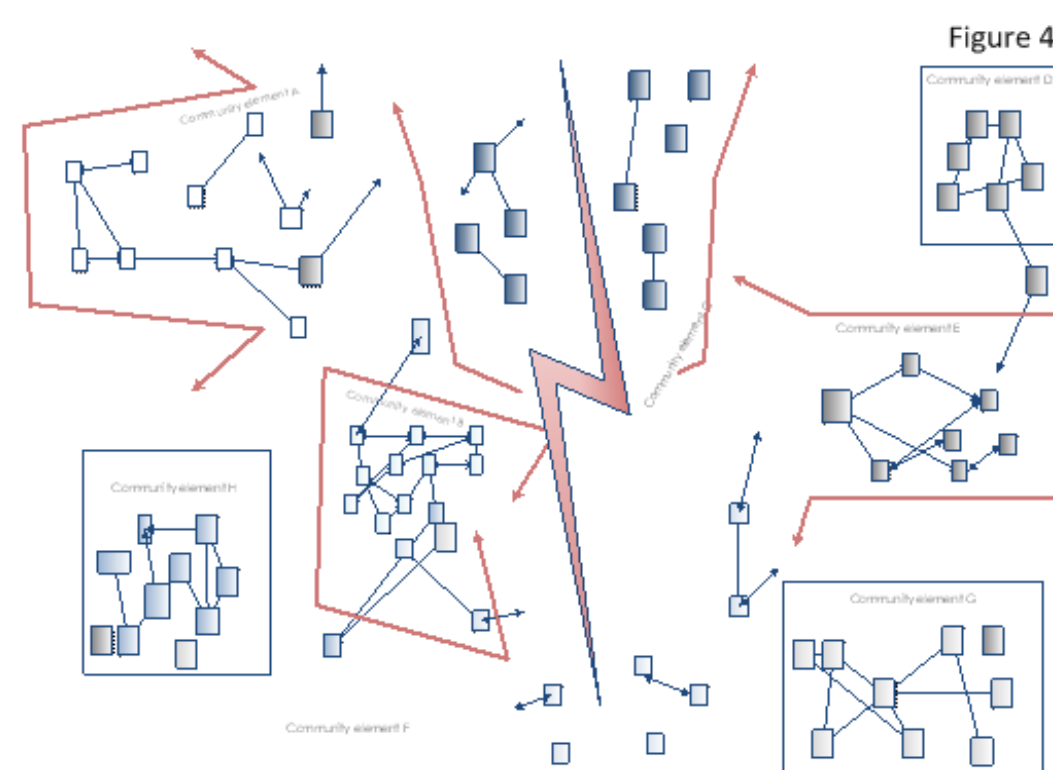


Figure 4 visualises the **release phase** of the adaptive cycle. The processes holding the structures of the community together are disrupted, the resources upon which the community depends are suspended and community capitals are broken down. In this event all elements of the community are affected, but to varying degrees.

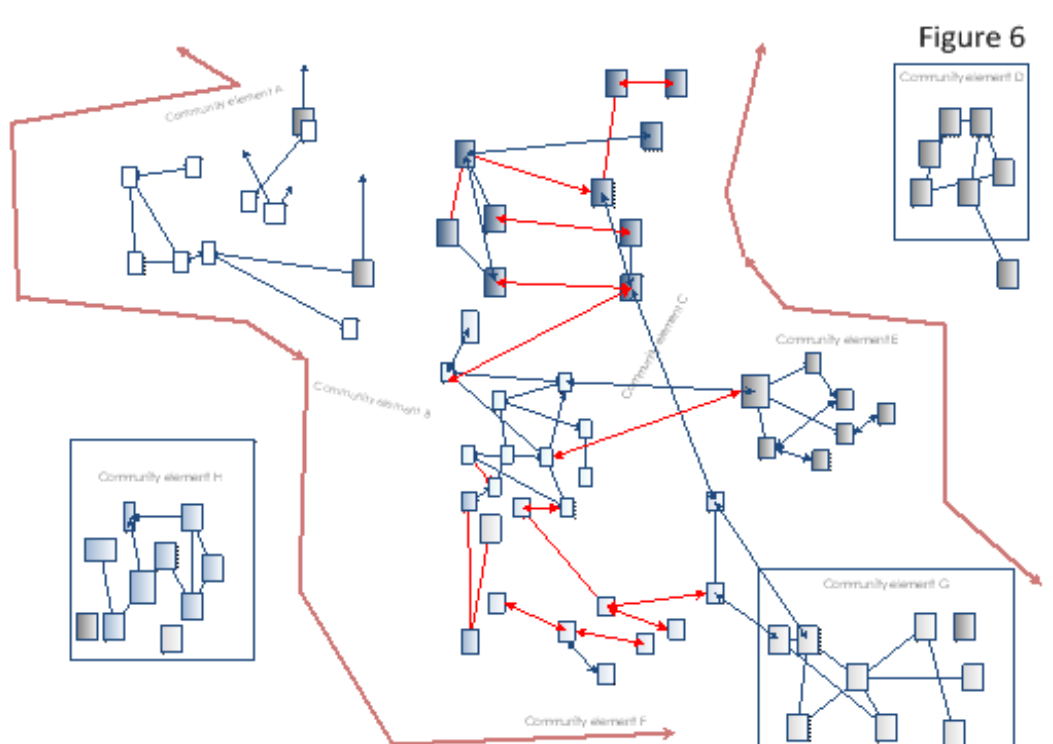


Figure 6 is the **reorganisation phase**. This represents a macro-community just post-impact, drawing on its internal resilience to adjust to the new structures. Some sub-elements that have been totally de-bonded during the impact can be seen to be developing 'scar tissue' (Gordon, 1990) to enable the life of the community to continue. Some other sub-elements can be seen to be cast adrift, apparently unaffected.

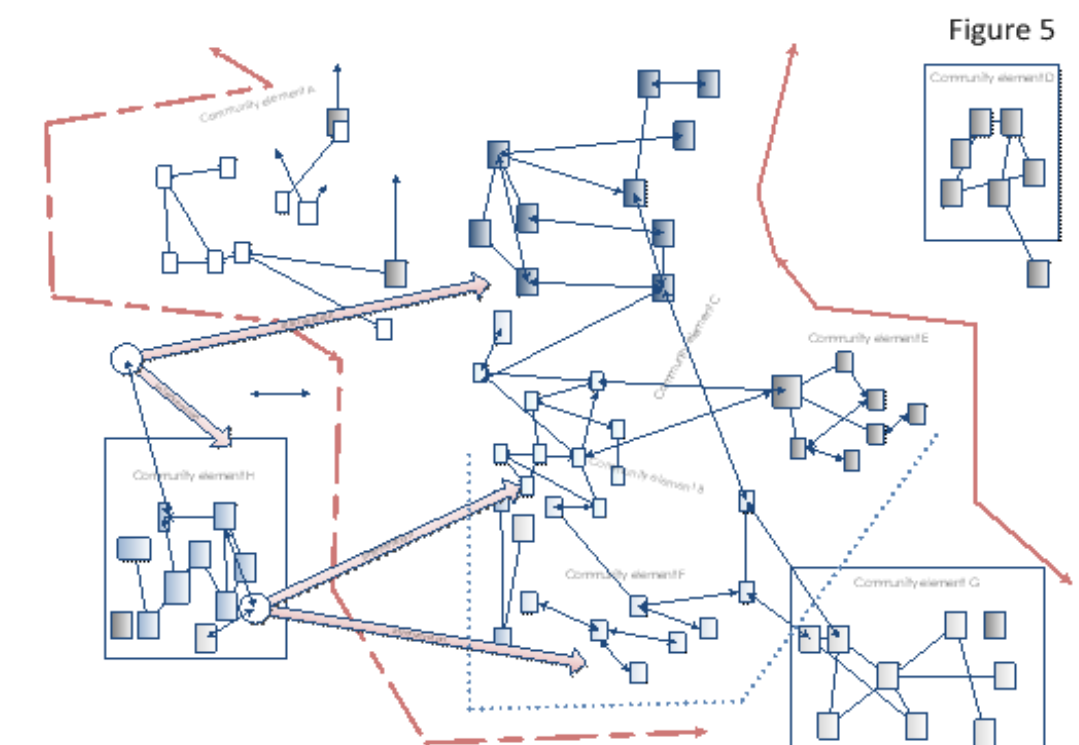


Figure 5 shows the **exploitation phase** where new bonds are formed but are still tentative and largely untested. It is at this stage when communities are most receptive to internal and external influences, but they are also at their most vulnerable. Existing power structures have been disrupted and potentially, while new structures are built, the impact of human emotions can be significant. It is through this process that the community as a whole responds to the impact event and which determines its resilience.

Gordon R., 1990 *Community Responses to Disaster*, Victoria, Australian Counter Disaster College  
Gunderson, L & Hollings, CS. 2000 *Panarchy: Understanding transformations in human and natural systems*. Washington DC: Island Press