

Complex adaptive and 'inquiring' systems approaches for contemporary military operations.

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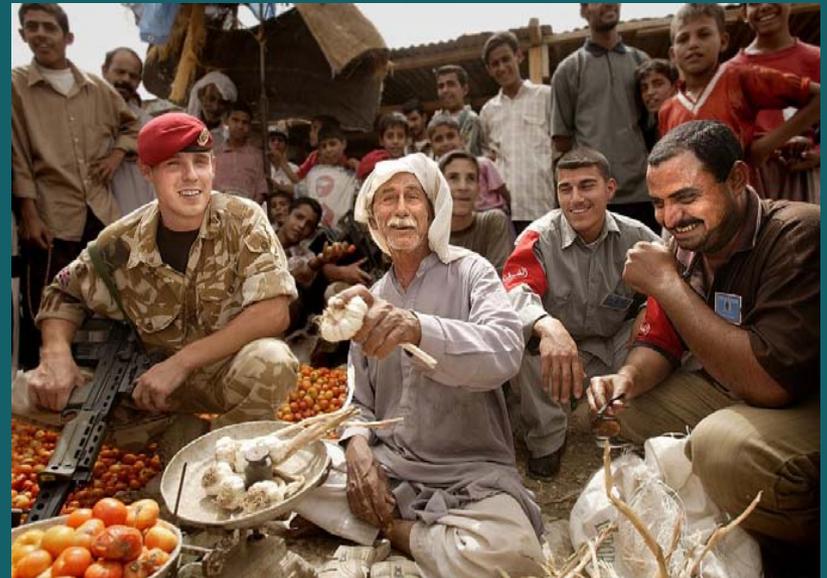
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Operational assumption

The problems facing us in contemporary operations are socially complex as well as being open-ended.

Research question

How might we use a multi-perspective approach to help us to more openly understand how to support decision-making in complex operations?



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Conceptual Language

The Analytical framework

Worked Example



Introduction



CIED

Afghanistan

Meeting the military challenges through open inquiry

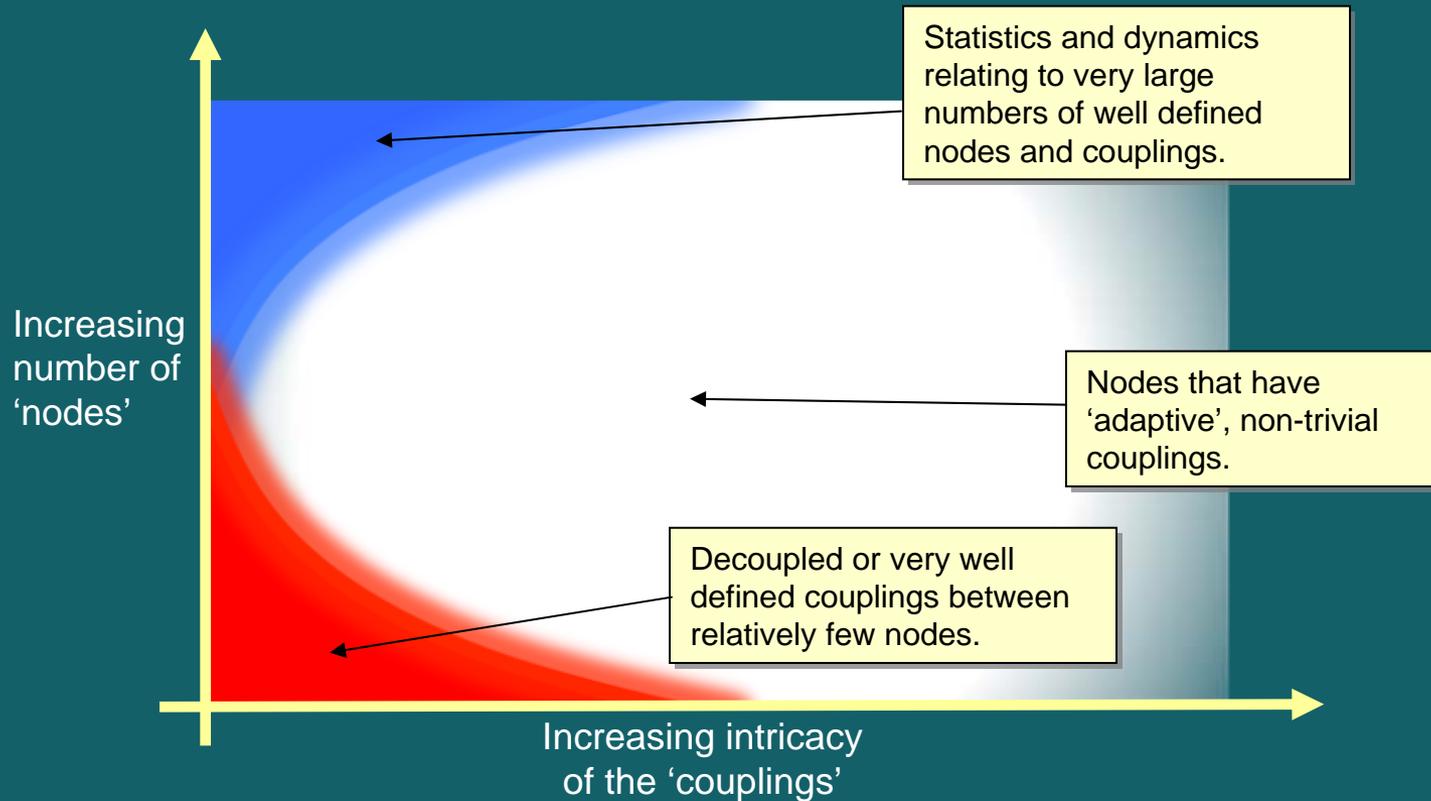
Many practitioners who have experienced contemporary military operations might agree that they are characterised by four things in particular: complexity, ambiguity, uncertainty and volatility and by the fact that they all tend to be 'wicked problems' – problems that are intractable and circular with complex inter-dependencies – where solving one problem can create further problems or make the whole problem greater.

Kiszely, J. (2008). 'Coalition Command in Contemporary Operations', in Williamson M (ed) *Democracies in Partnership: 400 Years of Transatlantic Engagement*.

The challenge

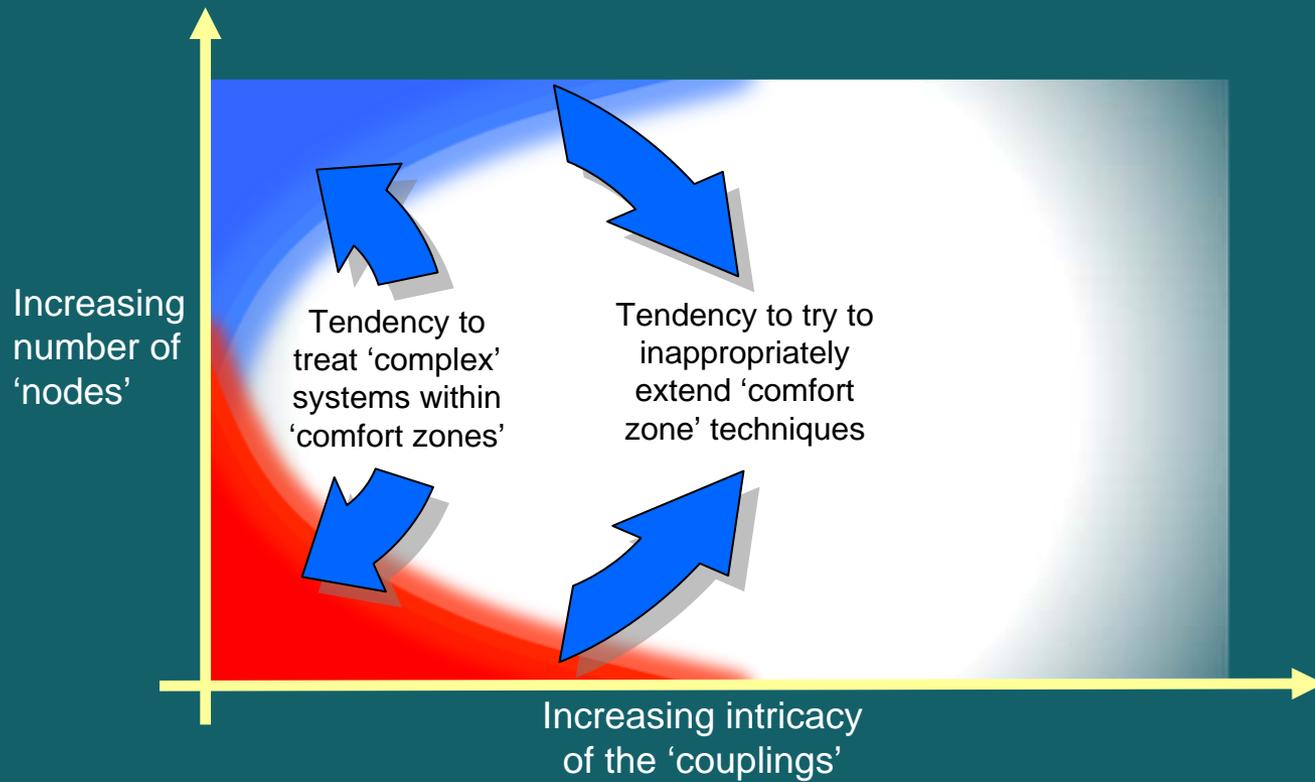
- Based upon this military need the challenge is how to approach these types of problems. Two alternatives are possible:
 - Extending and adapting existing analytical methods.
 - Returning to holistic, inquiring systems thinking, such as proposed by Churchman and Ackoff, resulting in a transformation that includes ‘traditional’ single-viewpoint, objective functions together with subjective, multiple perspective representations.
- C. W. Churchman, ‘The Design of Inquiring Systems: Basic concepts of systems and organisations’, Basic Books, 1971
- R. L. Ackoff, ‘Methods of inquiry’, Educational Publishers, 1950.
- G.L.S. Shackle, ‘The Origination of Choice’, 1986, in Kirzner, editor, *Subjectivism, Intelligibility and Economic Understanding*.

'System space'

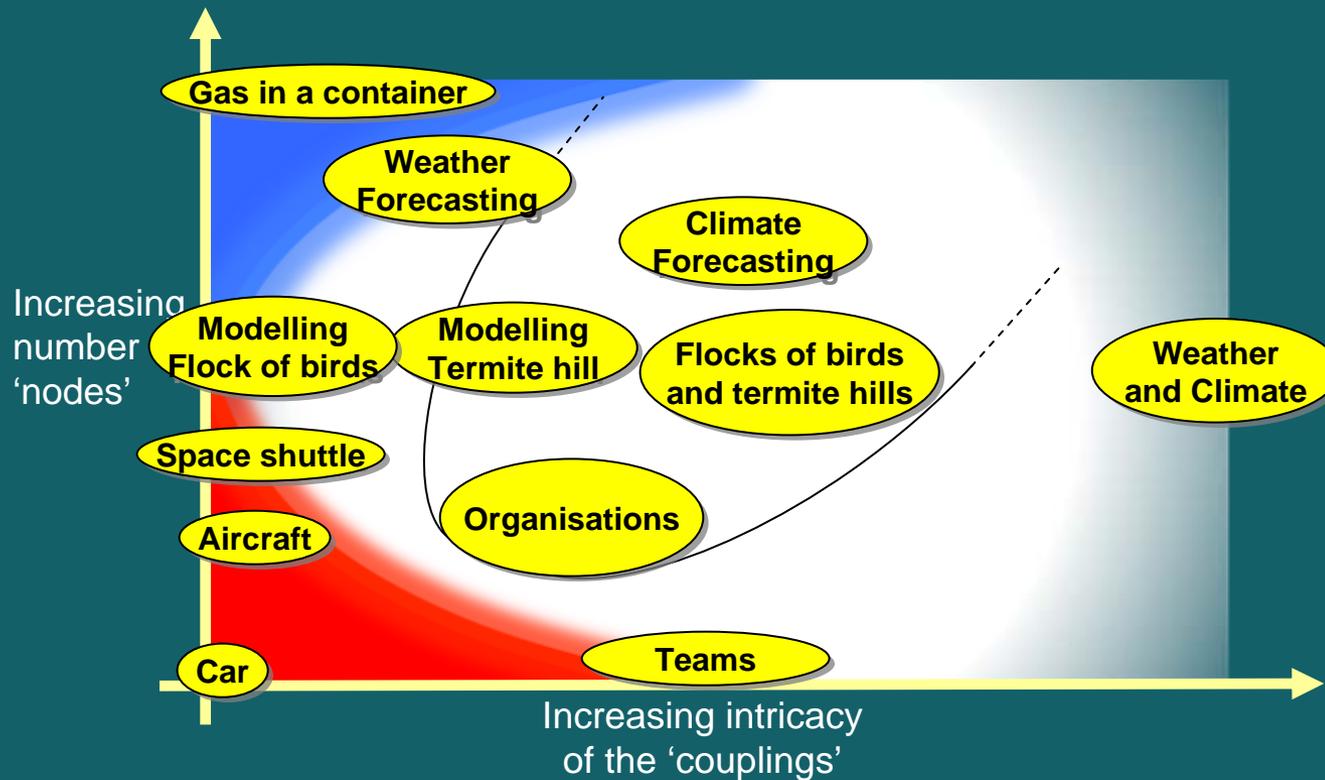


Bertalanffy, General Systems Theory, 1969

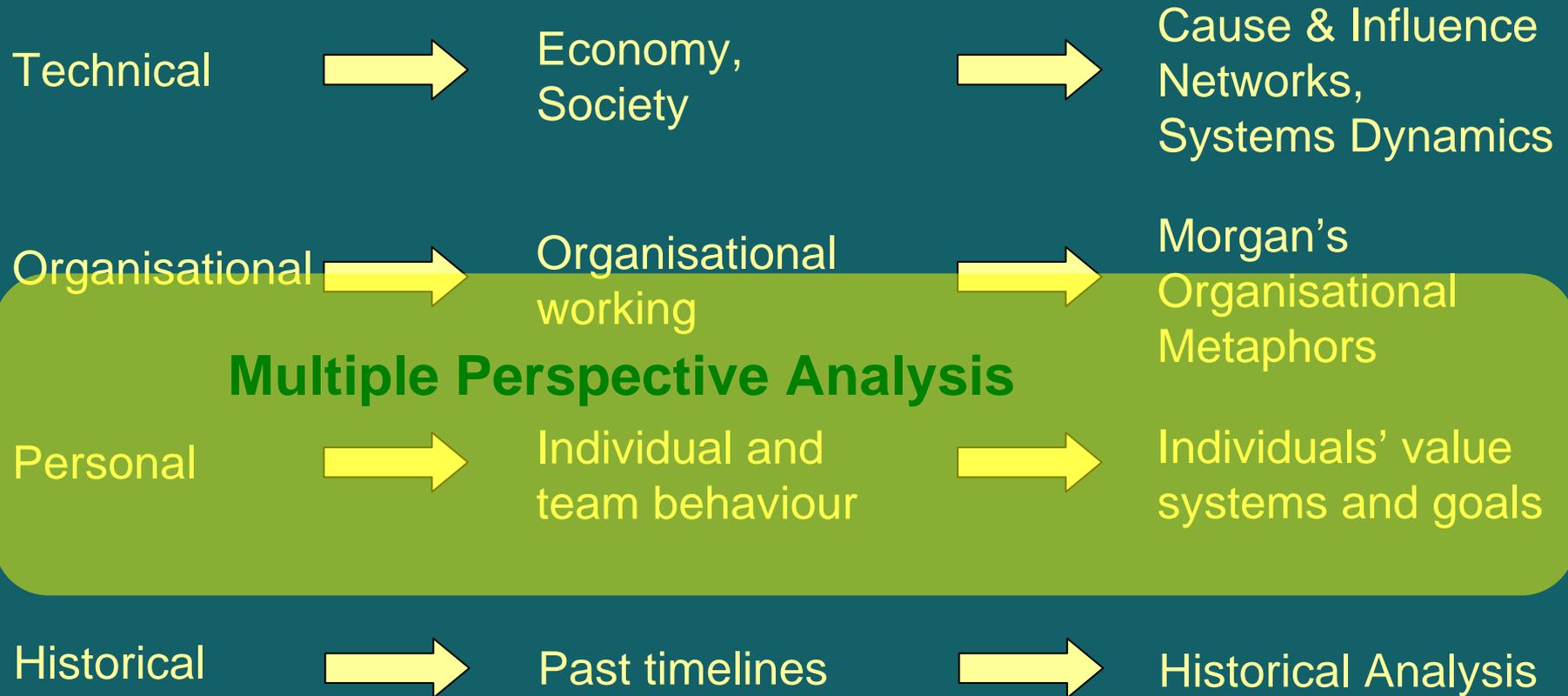
Coping strategies



Example Systems

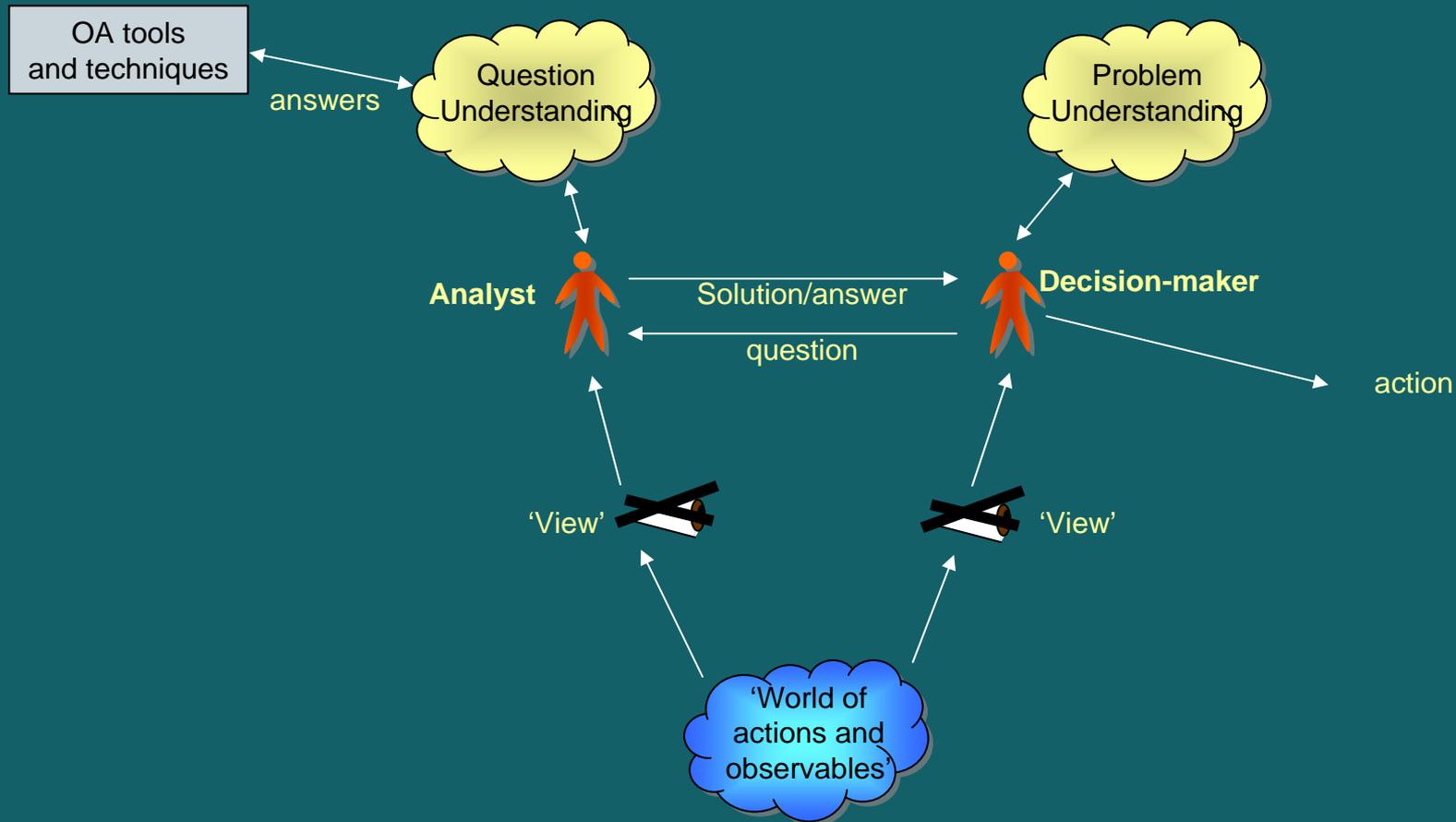


Analytical context

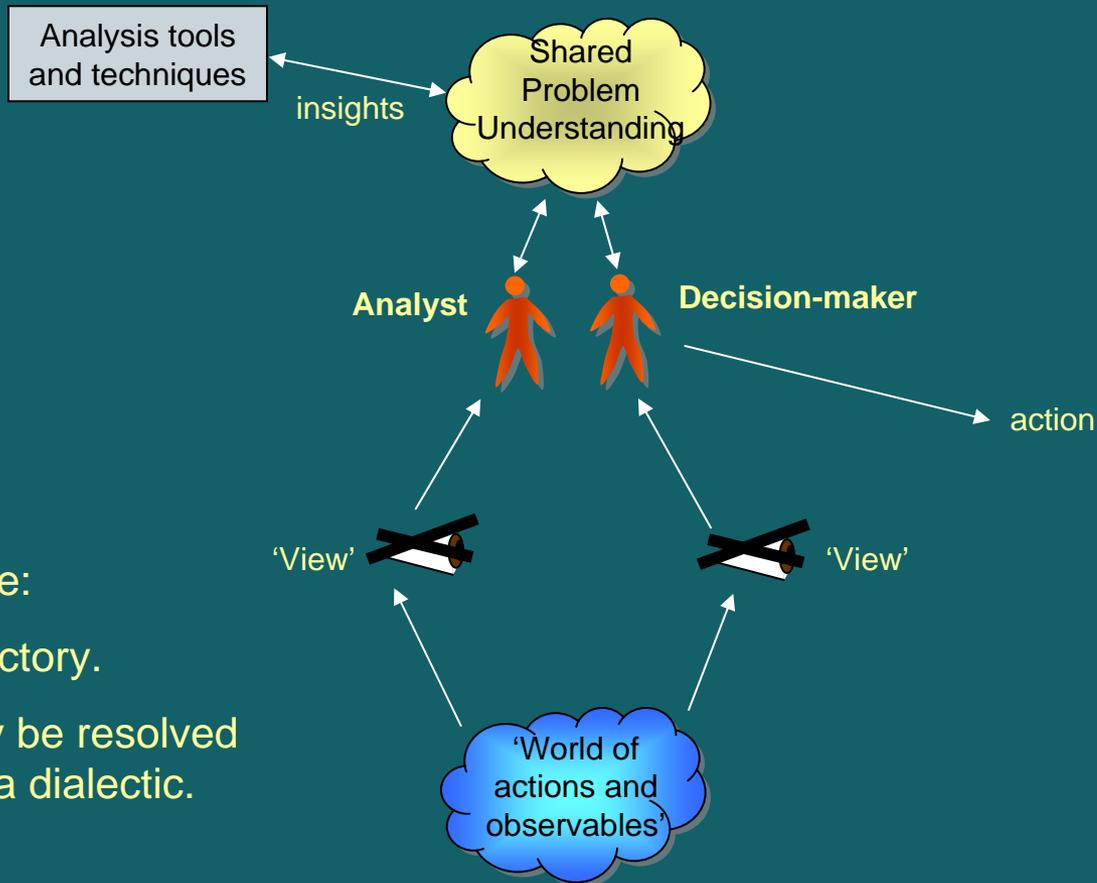


The Unbounded Mind: Mitroff and Linstone (1993)

Solution-oriented analysis



Insight-oriented analysis



- Insights will be:
 - Contradictory.
 - Can only be resolved through a dialectic.

Summary

To provide insights into contemporary military problems:

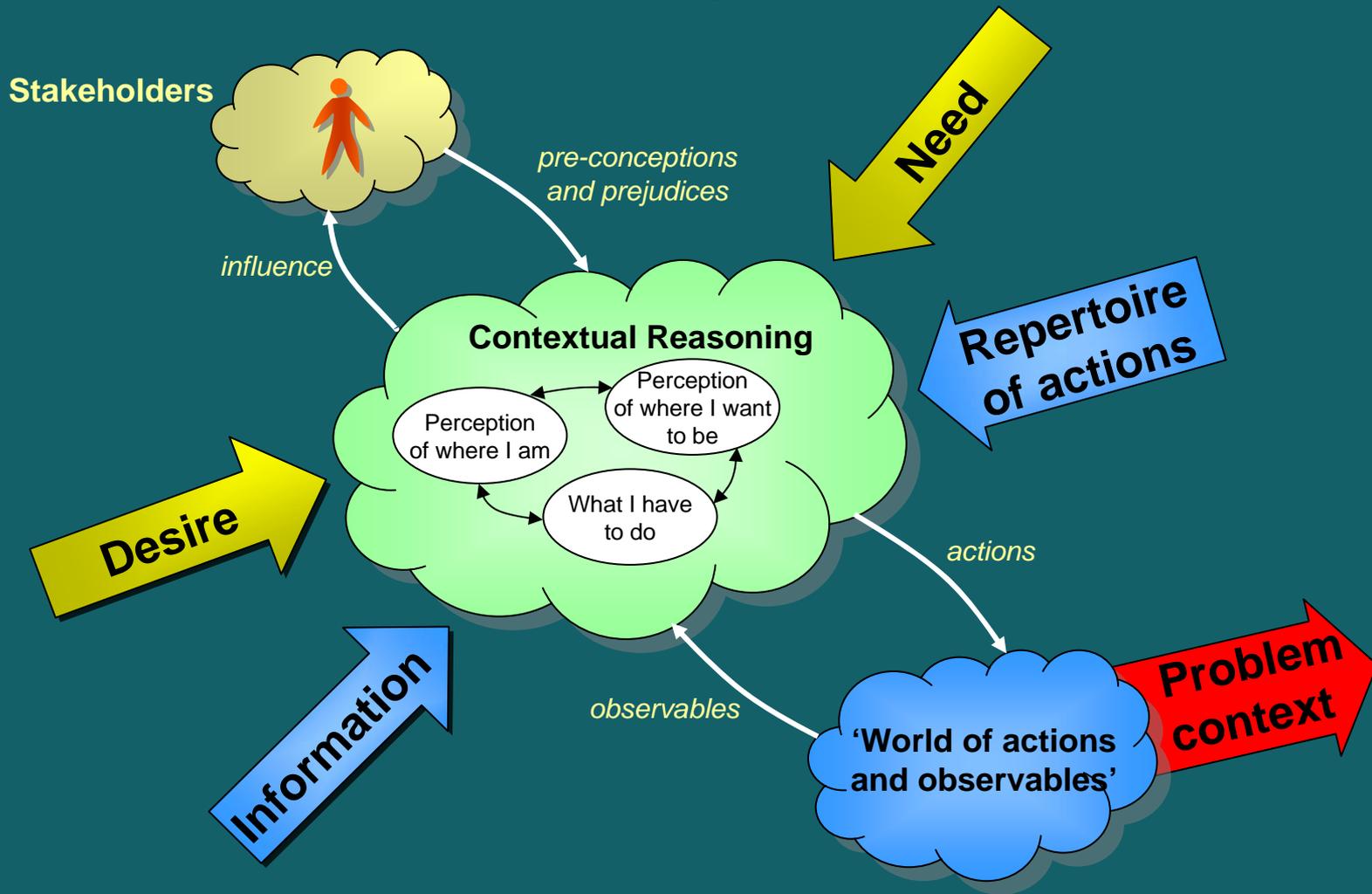
- Existing analytical methods cannot be extended.
- Multiple perspectives are vital for problem understanding.
- Insight will be gained through a dialectic of the contradictory issues raised by the different analytical approaches.
- For this presentation we are concentrating on the 'Personal' dimension.

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Conceptual Language

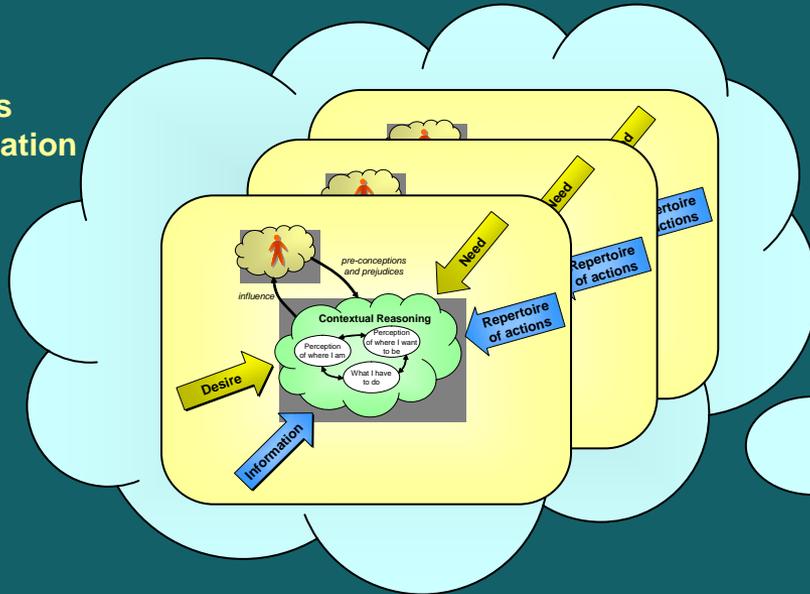
viewpoint open mind

Concept of a stakeholder viewpoint: single viewpoint



Concept of multiple viewpoints

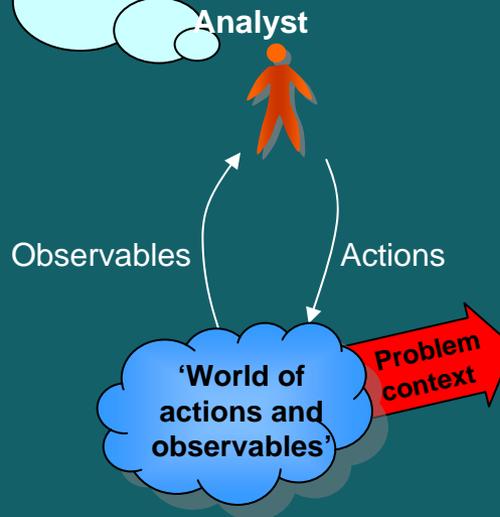
Analyst's interpretation



Multiple stakeholder viewpoints

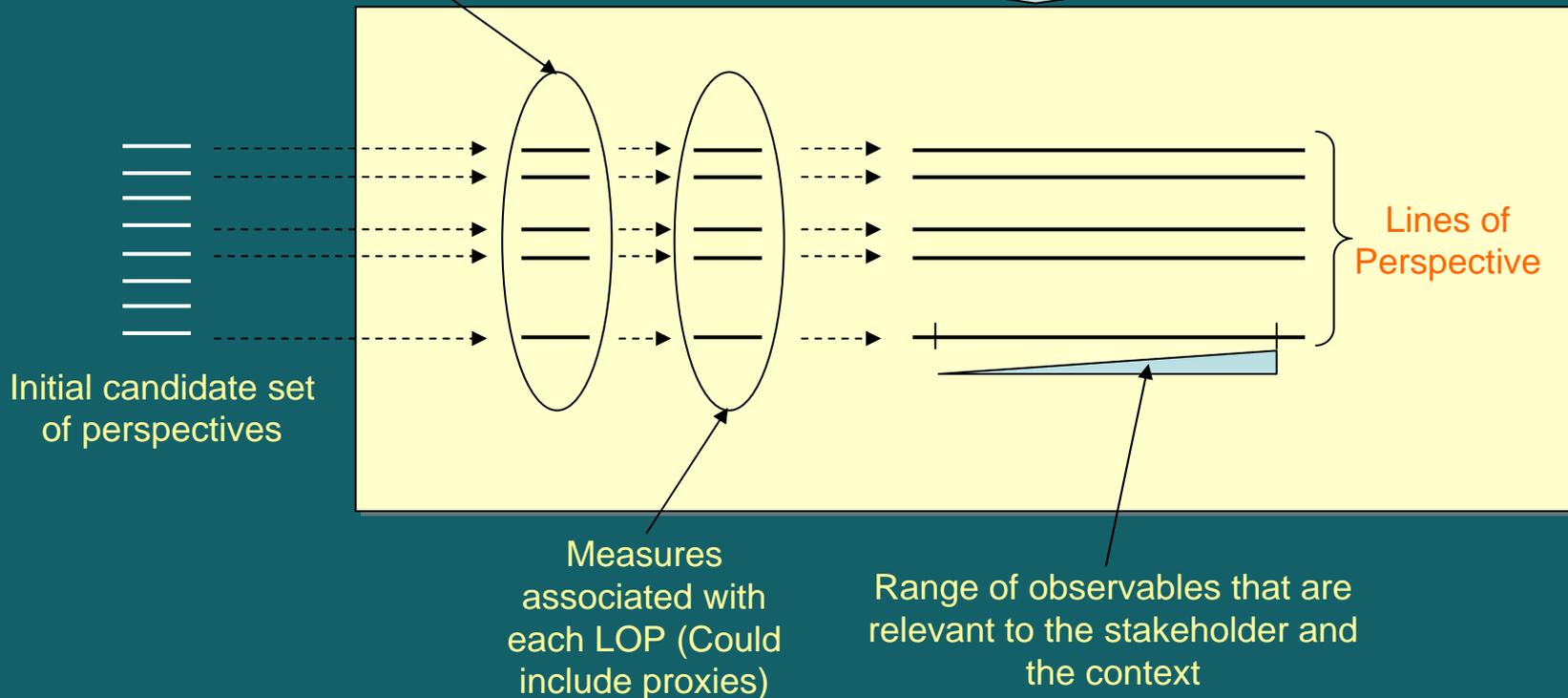
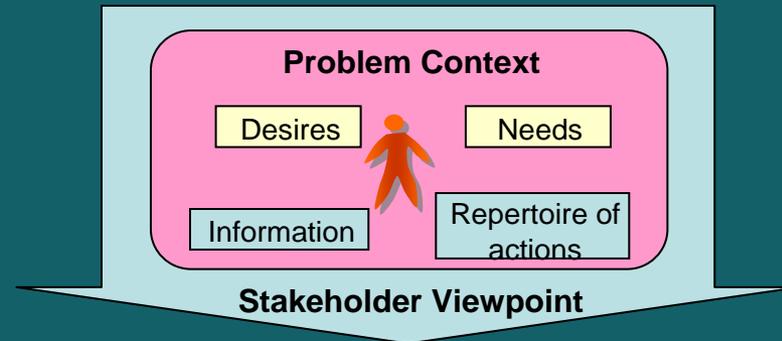


Insights into the situation



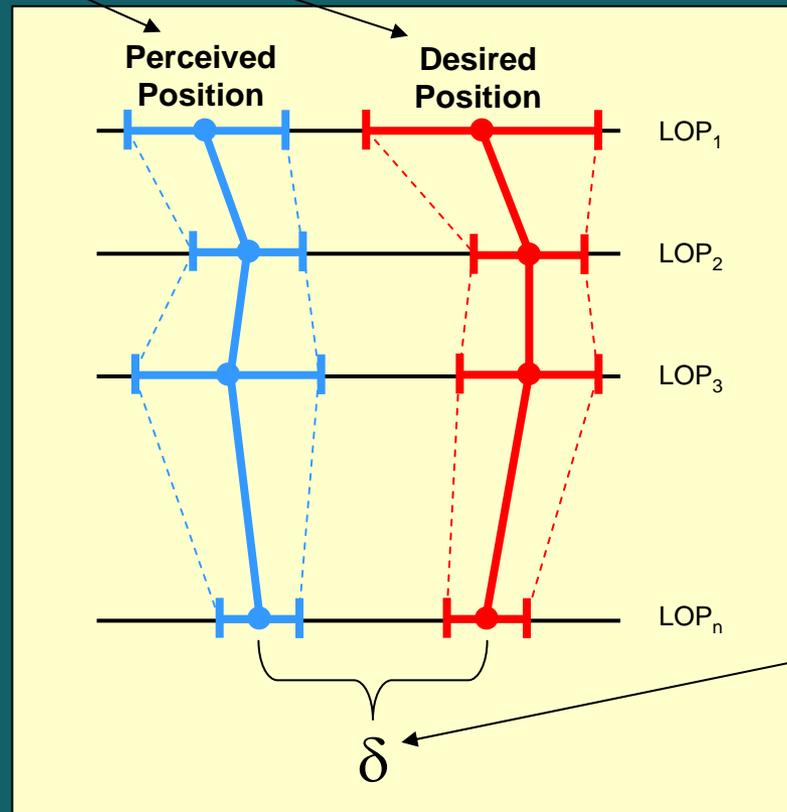
Perspectives

Perspectives that the stakeholder 'cares about' in a given context.



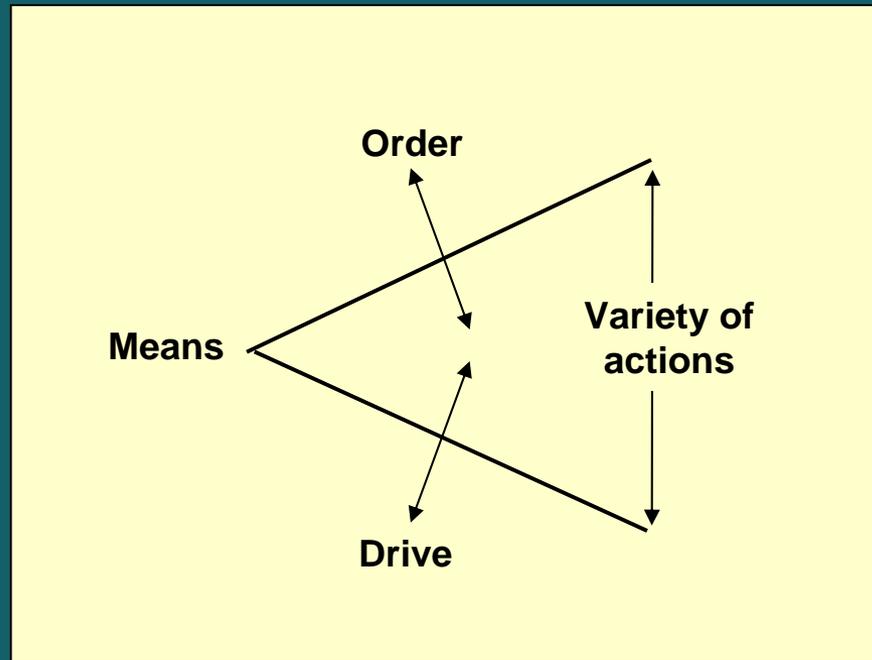
Positions

Attractors in the perspective 'landscape'



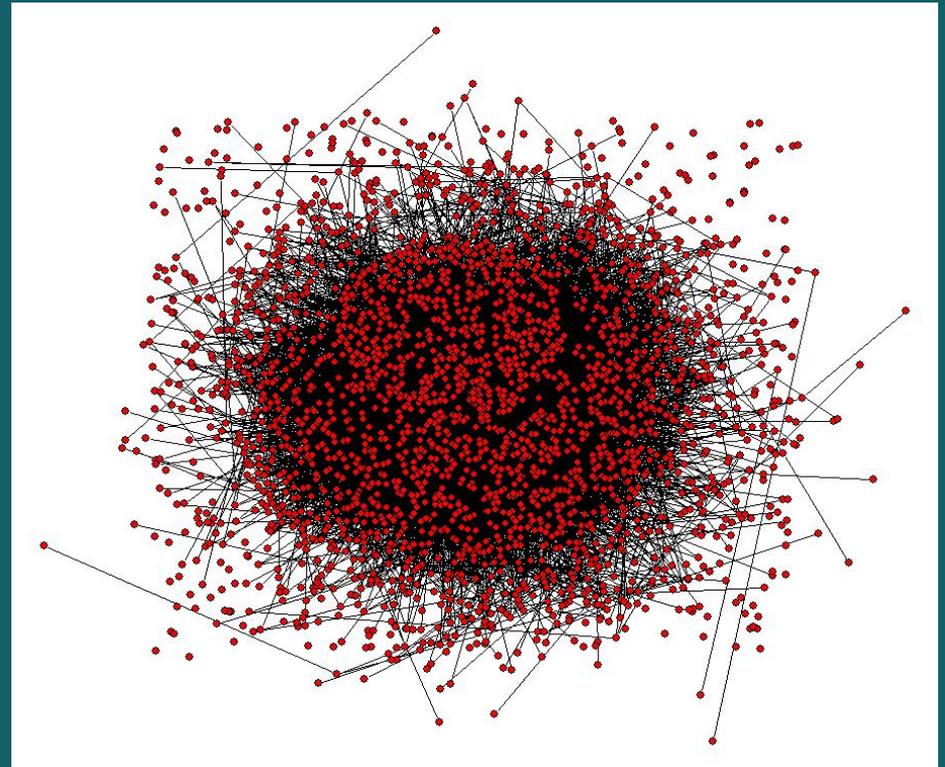
Stakeholder's drive for action

Towards Repertoire of Actions

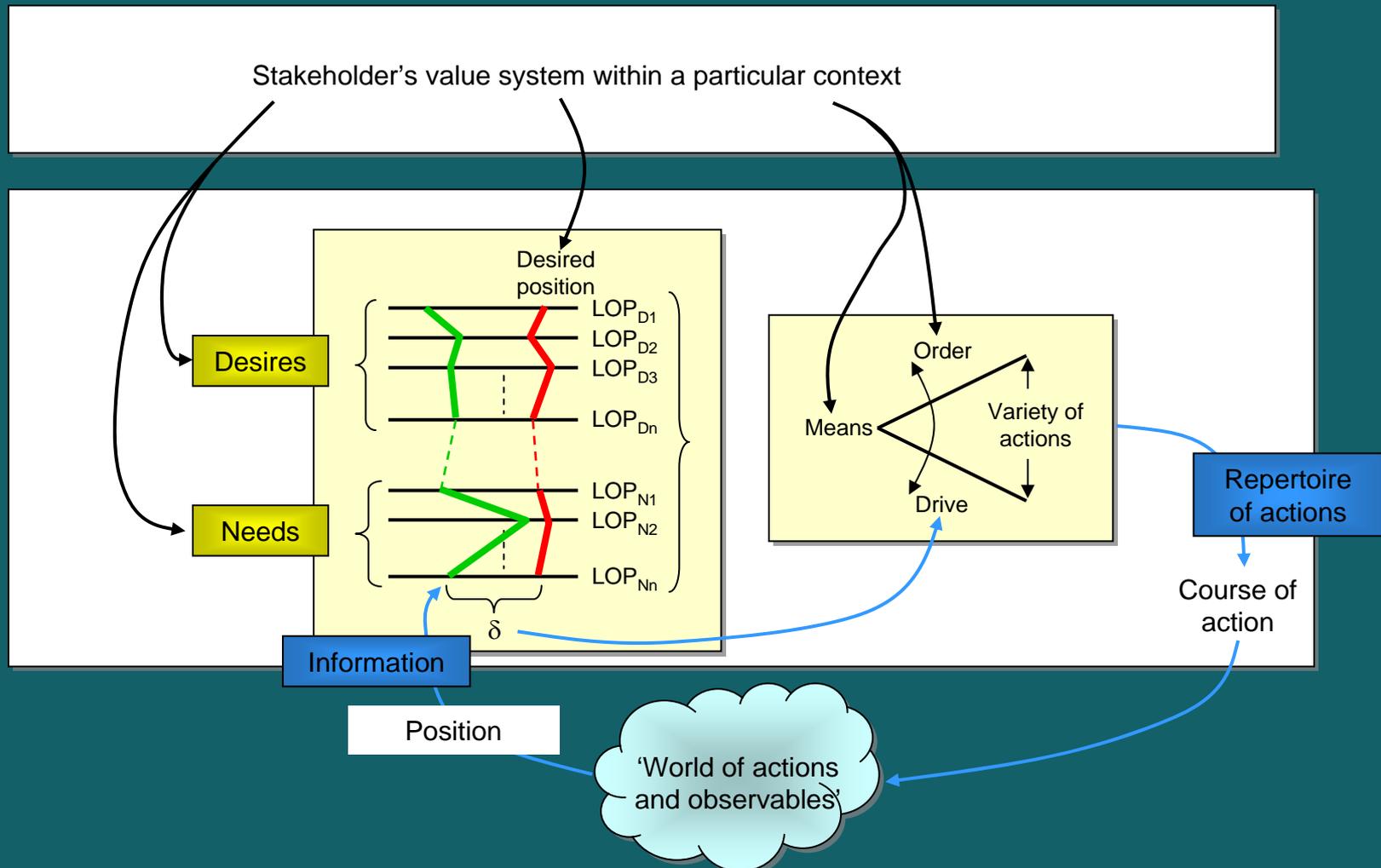


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The Analytical framework

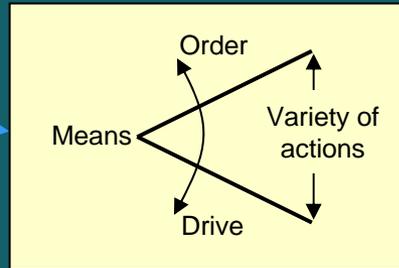
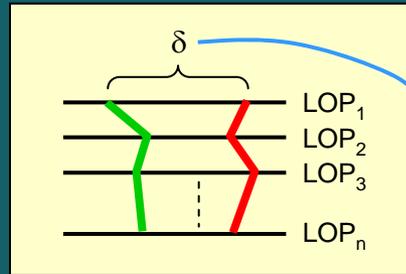


Introduction to the Analytical Framework: Single Stakeholder



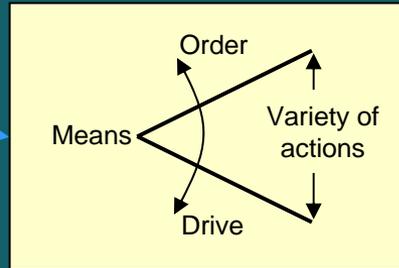
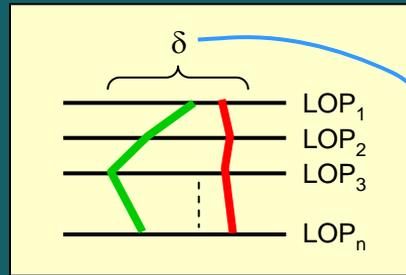
Analytical framework for multiple stakeholders

Viewpoint:
Taliban



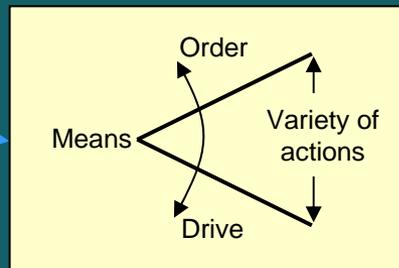
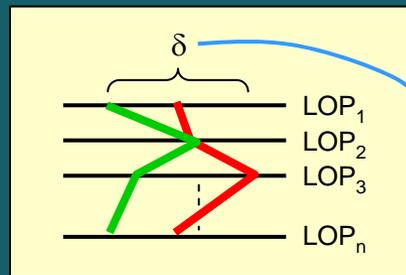
Course of action

Viewpoint:
Commander



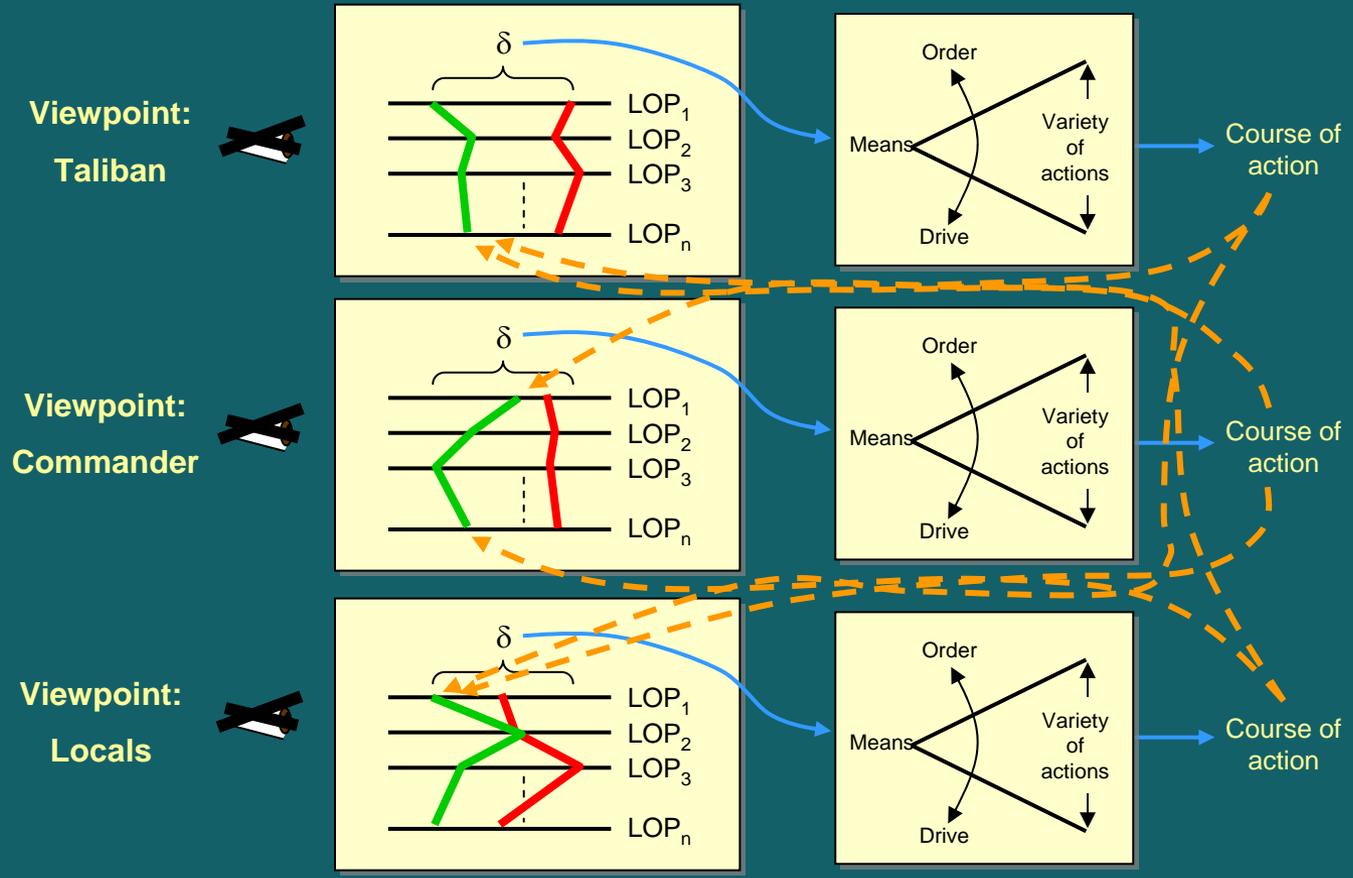
Course of action

Viewpoint:
Locals



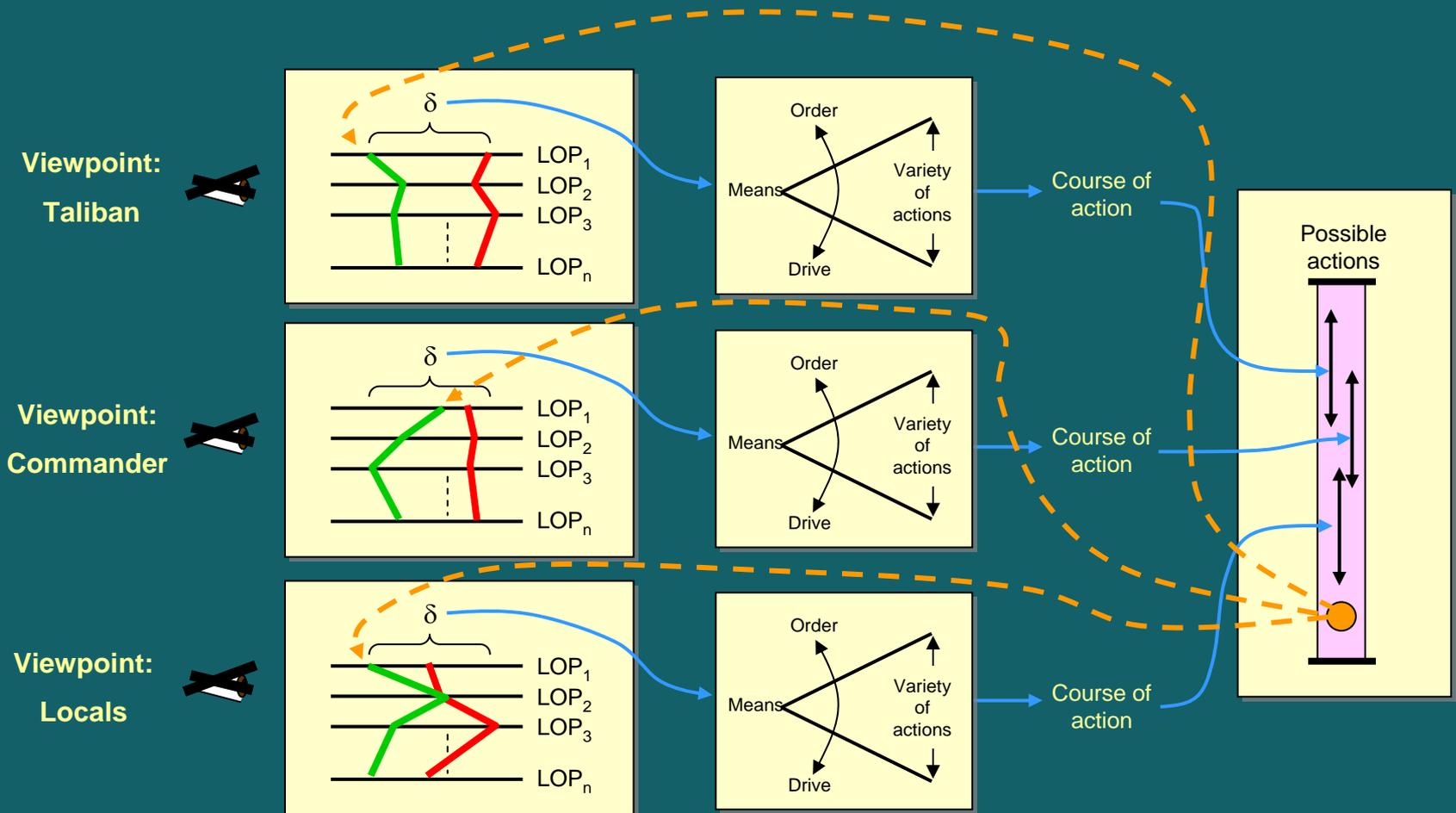
Course of action

Analysis type 1: Stakeholder impact analysis



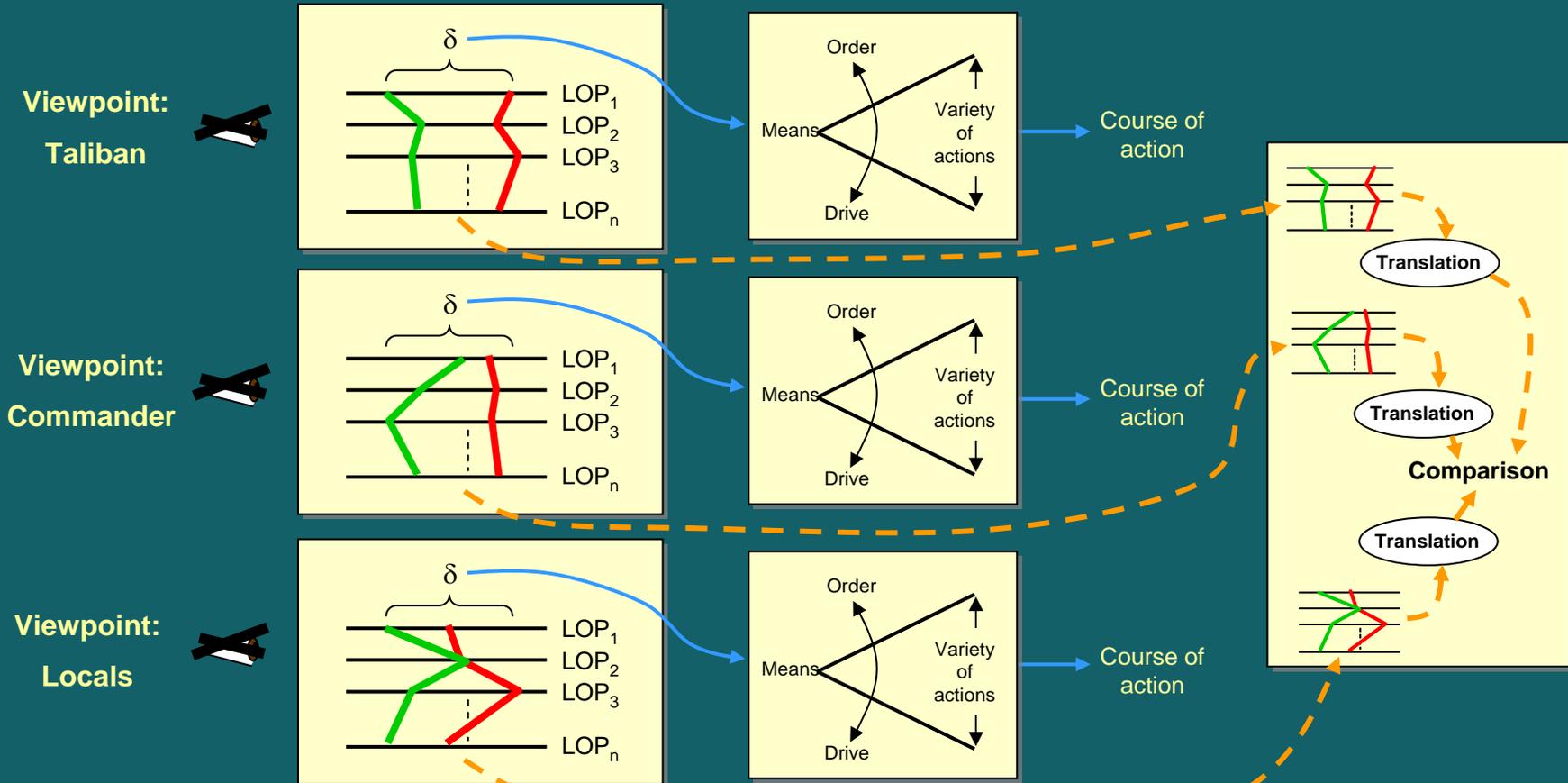
‘If they do that, how might this affect others?’

Analysis 2: Innovative analysis



'If we do this, how might this affect others?'

Analysis 3: Cross-framework analysis

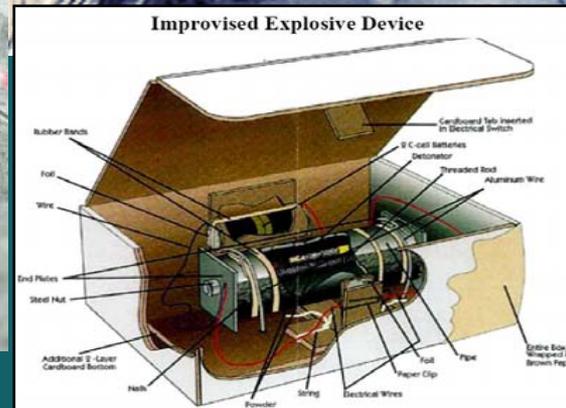


‘How far apart are they anyway?’

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Illustrative Example: C-IED

Options for action



Candidate questions

- Candidate forward-looking "What if?" question:
 - Is it deemed reasonable to pay for IEDs to be handed-in? If so, how much?
- Candidate backward-looking "Why?" question:
 - Why did the number of IED incidents not decrease during poppy harvest in 2007?
- Within our adaptive analytical framework, "why?" questions are very challenging due to the multiplicity of frameworks required.

Potential Stakeholders for C-IED in Afghanistan

- Coalition Command
- Ordinary Soldier
- **ATOs (ie IEDD operators)**
- Local population (Collateral)
- **Local population (Protection)**
- Bomb operatives (inc. finance & training)
- Afghan forces (inc. police)
- UK Public
- UK Government
- Tribal Elders (inc. District Councillors)
- **Taliban**
- Businessmen (Legitimate)
- NGOs
- Afghan Government
- Businessmen (Non-legitimate)
 - (inc. narcotics/weapons trading)
- **Media**
- UK Analysts (Int. etc)
- ...

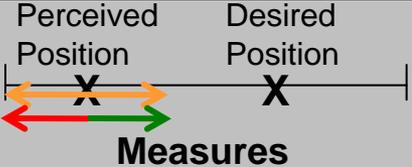
Stakeholder interests

Stakeholder	What defines main aspects of stakeholder interest in IED.
Taliban	IED as force element
ATO Operator	IED as device to be 'made safe'
Local population	IED as personal threat or opportunity
Media	IED as news-story element

Context: paying for IED

Stakeholder	What defines main aspects of stakeholder interests in IED	line of perspective	Measures
Taliban	IED as force element	<ul style="list-style-type: none"> • Geographical • Financial • Educational • Ideological • Social • Societal • Technical • Organizational • Political • Operational 	
ATO Operator	IED as device to be 'made safe'	<ul style="list-style-type: none"> • Geographical • Professional • Social • Operational • Technical • Analytical • Organizational 	

Context: paying for IED

Stakeholder	What defines main aspects of stakeholder interests in IED	line of perspective	
Taliban	IED as force element	<ul style="list-style-type: none"> • Geographical • Financial • Educational • Ideological • Social • Societal • Technical • Organizational • Political • Operational 	<ul style="list-style-type: none"> • No. of regions of influence • Level of self-financing <ul style="list-style-type: none"> • number of schools • % signed-up to ideology • Taliban with referent power • Re-established societal control • numbers with IED skills <ul style="list-style-type: none"> • % positions of authority • Degree of Governmental power • % reqd operative status
ATO Operator	IED as device to be 'made safe'	<ul style="list-style-type: none"> • Geographical • Professional • Social • Operational • Technical • Analytical • Organizational 	<ul style="list-style-type: none"> • % secure patrols & safe areas • Degree of achievement • Extent of social knowledge • % reqd operative status • Extent of device knowledge • Amount of support • Degree of autonomy

Discussion of illustrative example

- Limited analysis undertaken has shown that adopting different viewpoints and multiple perspectives has potential for providing interesting cross-stakeholder insights.
- The framework supports a more open and subjective approach to analysis.
- The method helps to open-up inquiry and tries to avoid advocacy – visualisation needs further work.
- It addresses possibility in addition to probability.
- We have not:
 - Covered adaptive aspects of the framework – because we cannot enact.
 - Looked at an extended set of stakeholders.
 - Have not considered the contributory role of traditional analytical methods.

QUESTIONS?

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