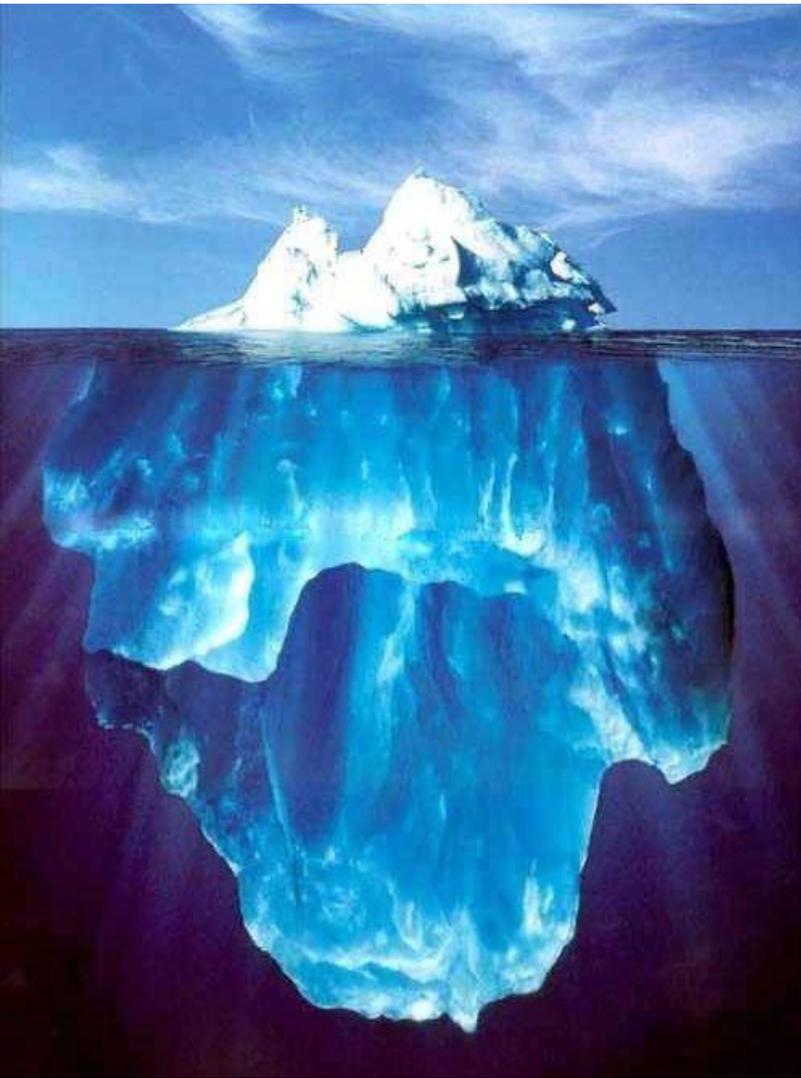


18th International Command & Control
Research & Technology Symposium

A photograph of an iceberg floating in the ocean. The small, jagged tip of the iceberg is visible above the water surface, while the much larger, submerged portion is visible below, illustrating the concept of hidden or unperceived elements.

An empirical study to evaluate the application of scenario planning methods to military operational planning

Paper 071

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Context

- UK MOD Command, Inform & Battlespace Management (CIBM) Research Package
- Task 8: Planning & Decision Support
 - Investigate potential improvements in ways of producing and communicating plans, intent and courses of action
- Operational and higher-tactical focus
- Vision: develop and test potential interventions through a campaign of experimentation
- HQ ARRC engagement
- Methods to enable 'understanding'

Overview

- Understanding complex situations
- Analysis of Conflict Dynamics & Generation of Future Scenarios
- Empirical Study with HQ ARRC
- Conclusions & Discussion

UNDERSTANDING COMPLEX SITUATIONS

Issues

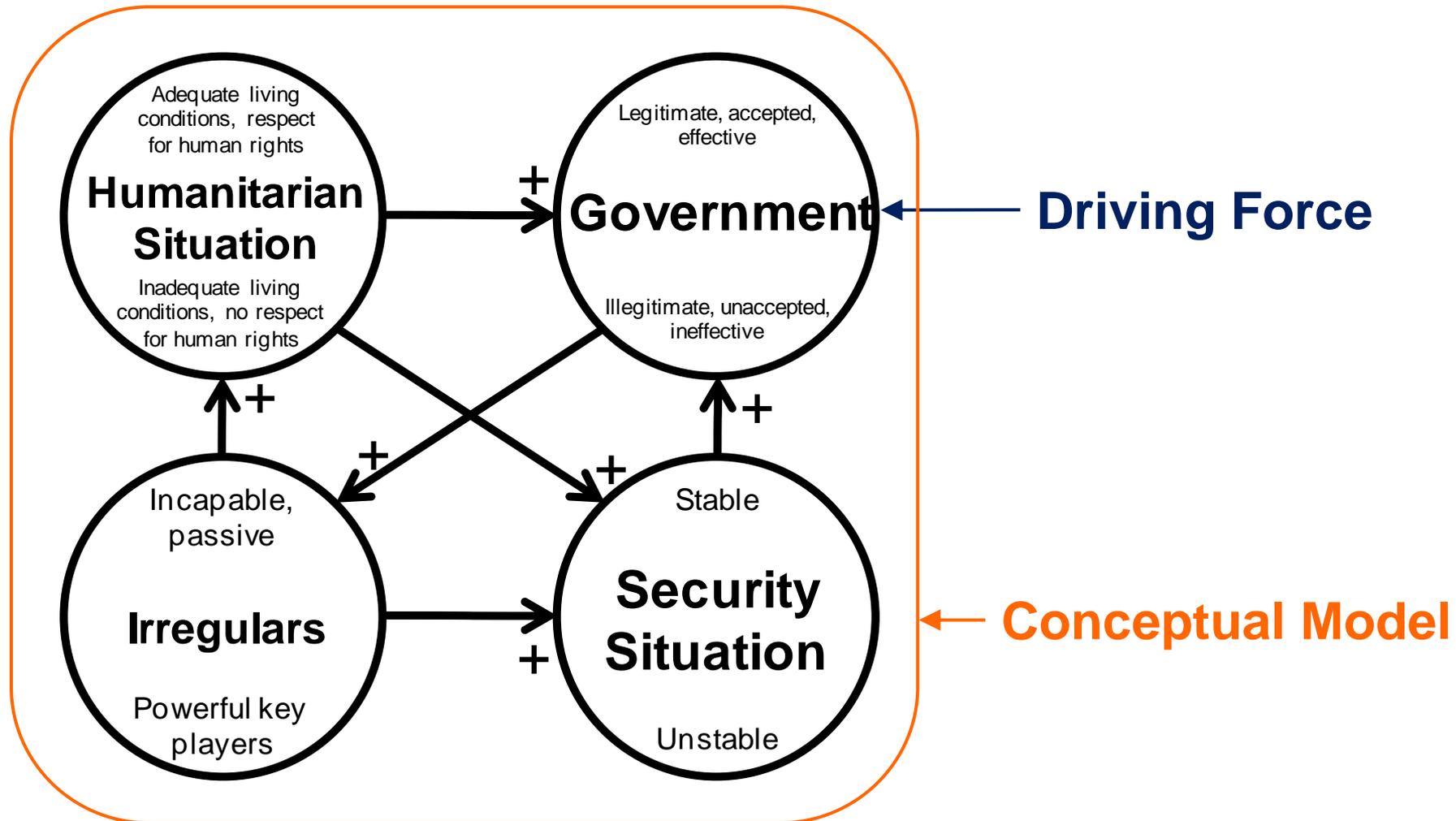
- Strategic bounding of the situation
- Staffing
- Time pressure
- Lack of conceptual or methodological guidance
- Focusing upon production of output
- Focusing on symptoms rather than underlying causes
- Premature orientation towards action
- Reductionist thinking
- Forecasting

Requirements

- A **forum** for a diverse set of experts
- A way of developing a shared concept of the operating environment, based on **underlying causes**
- Holistic and open thinking about **future outcomes**
- **Exploitation** to support operational planning

ANALYSIS OF CONFLICT DYNAMICS & GENERATION OF FUTURE SCENARIOS (ACD & GFS)

ACD & GFS Key Concepts



ACD & GFS Key Concepts

- **Key Question:** sets bounds for consideration of future outcomes (timeframe, region, types of issues)
- **Scenario:** a plausible, consistent and compelling story about the future operating environment, based upon Future Driving Forces

ACD & GFS Key Concepts

Peace and Love

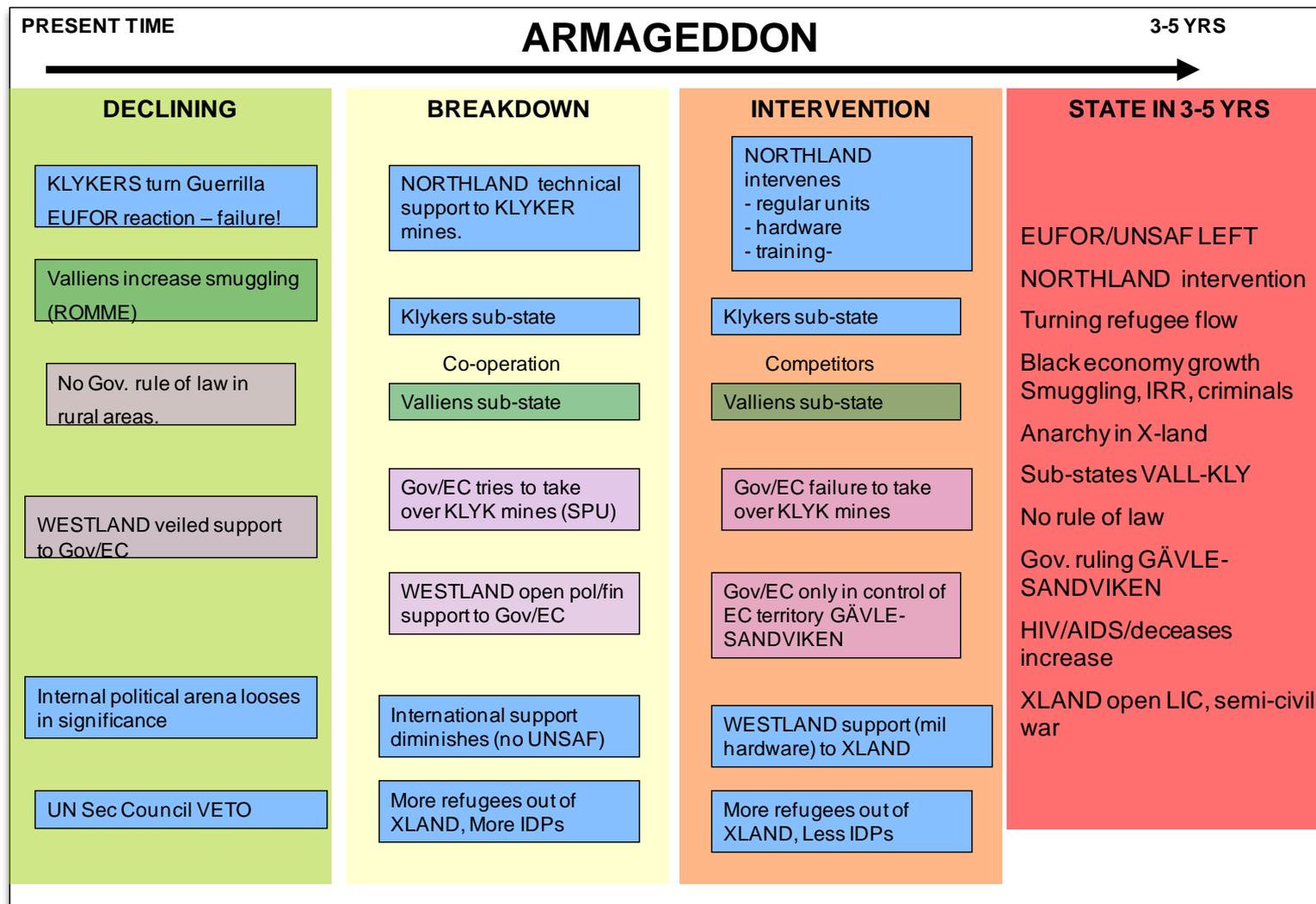
- “...All in all, the situation in Xland has shown great progress in the last couple of years, due to two main causes. The first main cause of this positive development is the regional stability that was reached after the peace agreement in Bogaland, and the involvement of Northland and Westland in the international community. The other main cause is the internal development of democracy and security, and the responsibility taken by the political leaders, the former antagonists of the Delta and Echo ethnic groups, based on the successful 2008 elections. The key event in this development might have been the political talks of reconciliation that took place during 2009. The help from international community during these years cannot be underestimated, when the combined efforts from UN, EU and a wide range of NGO's were utilized very effectively in order to help and support the development. Finally, the new multi-ethnic national football team, now qualifying for the 2012 Euro Championships in Poland/Ukraine, has become the unifying symbol for all Xlandians and shows that there are possibilities for all...”



SWEDISH ARMED FORCES
JOINT CD&E CENTRE

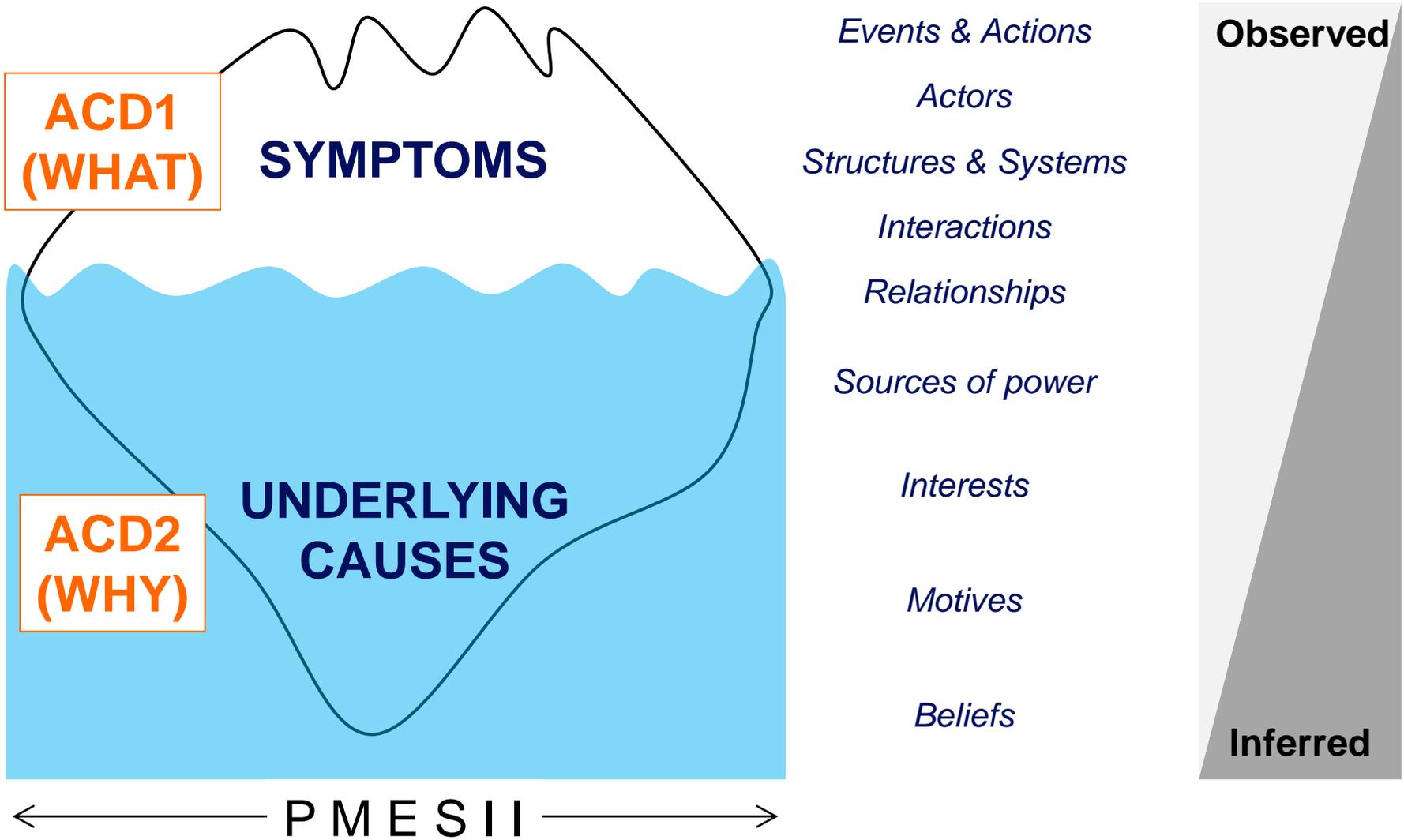
Acknowledgment: JCDEC, Swedish Armed Forces

ACD & GFS Key Concepts

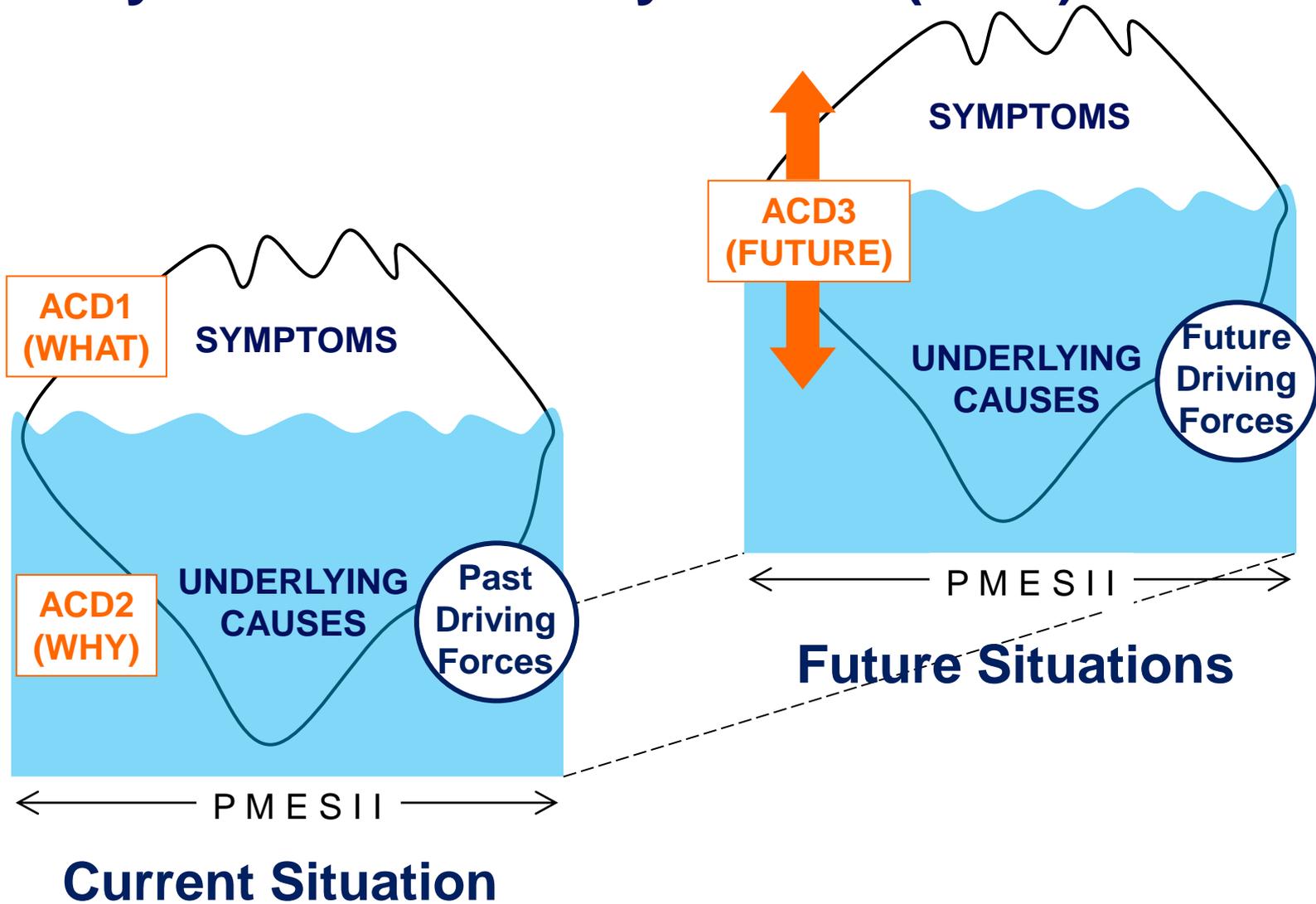


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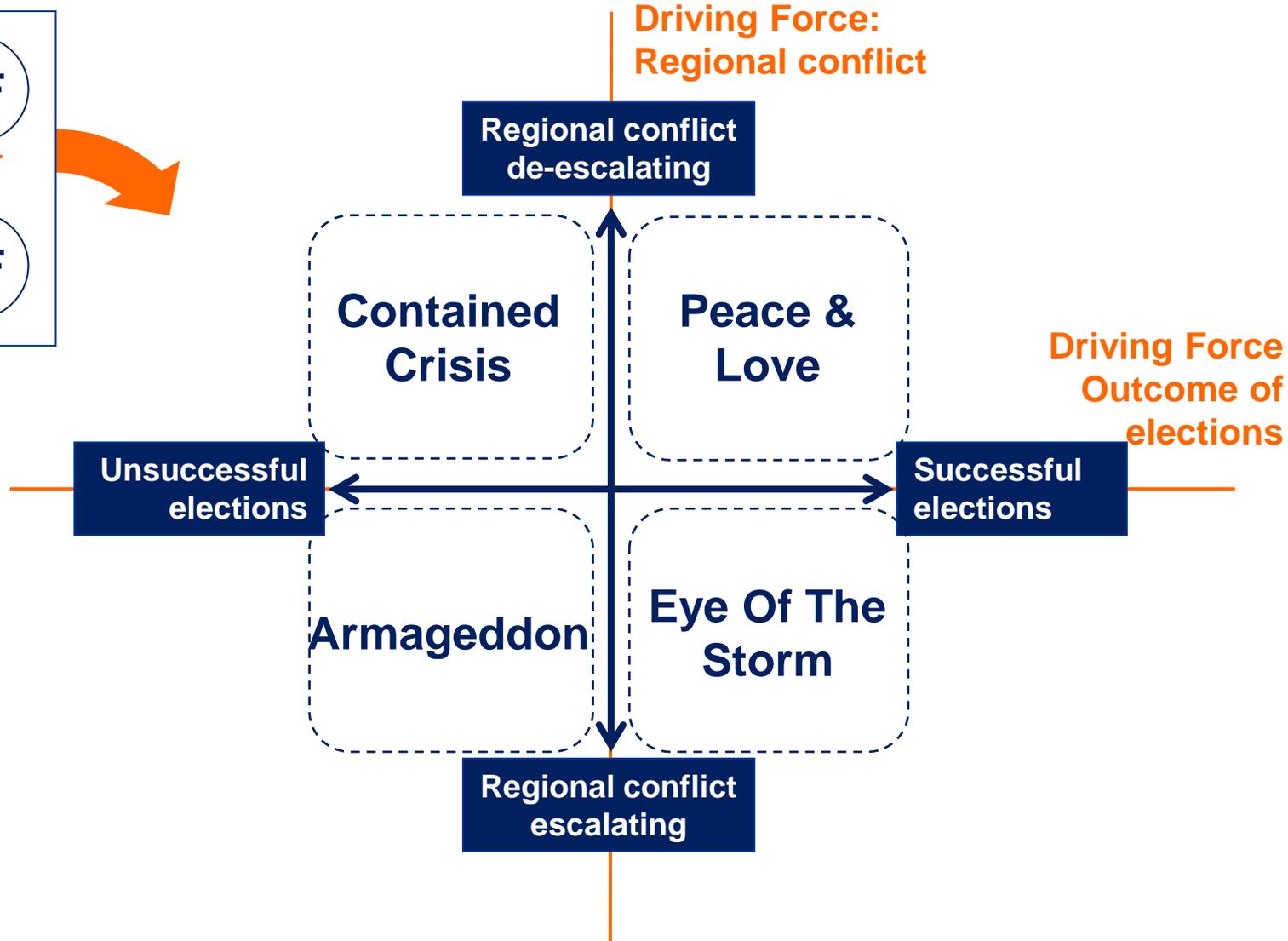
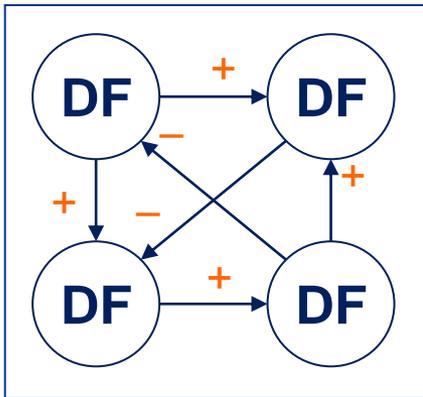
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Generation of Future Scenarios (GFS)



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EMPIRICAL STUDY WITH HQ ARRC

Study Design

- Two-day workshop at HQ ARRC
- Seven NATO staff officers (OF-5, OF-4, OF-3)
- G5 Plans lead
- Real-world crisis situation
- Teaching and facilitation of ACD/GFS process in six stages by Team Solomon
- Wash-up discussion

Research Questions

Will participants...

1. ...develop **more complex mental models** of the situation?
2. ...be more able to voice **uncertainty about the situation**, its dynamics and possible futures?
3. ...maintain, collectively, a **broader range of alternative plausible storylines** about the future operating environment?
4. ...be more aware of a **broader range of possible outcomes** of the current situation?
5. ...be able to compare the **benefits and limitations** of both ACD/GFS and existing methods?

Themes from observations

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End-state thinking	Utility of developing understanding without End State was understood	Key Question is necessary in directing the development of understanding but End State is not

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Exploitation of understanding	Participants keen to identify exploitation opportunities within planning	Increased understanding of plausible futures could benefit (influence) planning

Themes from participant feedback

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Time	Reservations about use within high-tempo planning	2 days minimum, more suited to Operational Planning
Staffing	Multiple branches (G5, G35, G2,...) & civilians required	Reinforces requirement of the process

CONCLUSIONS

Reflection on research questions

ACD & GFS methods enabled participants to:

1. Develop more complex mental models of the situation
2. Voice – and represent, in the concept of a Driving Force – more uncertainty about the situation, its dynamics and possible futures
3. Maintain, collectively, a broader range of alternative plausible storylines about the future operating environment
 - No desire to collapse the range of storylines onto ‘most likely’ and ‘most dangerous’ cases
4. Become more aware of a broader range of possible outcomes of the current situation (“exploring many End States but in less detail”)
5. Compare the benefits and limitations of both ACD/GFS and existing methods

Conclusions

- ACD & GFS enable development of broader and deeper understanding of complex situations
- ACD & GFS are ready for implementation within Operational Orientation
- HQ ARRC very positive about methods – requested SOI to be written