



Wargaming in Support of Force Development

Presentation to Connections North, 24 February 2018

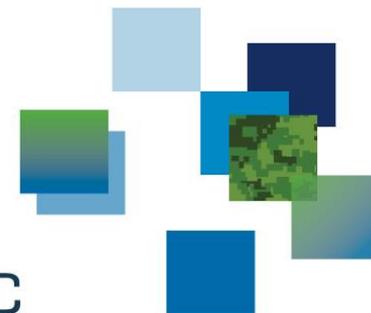
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NOTICE

(U) This document has been reviewed and **DOES NOT CONTAIN** controlled goods.

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Background

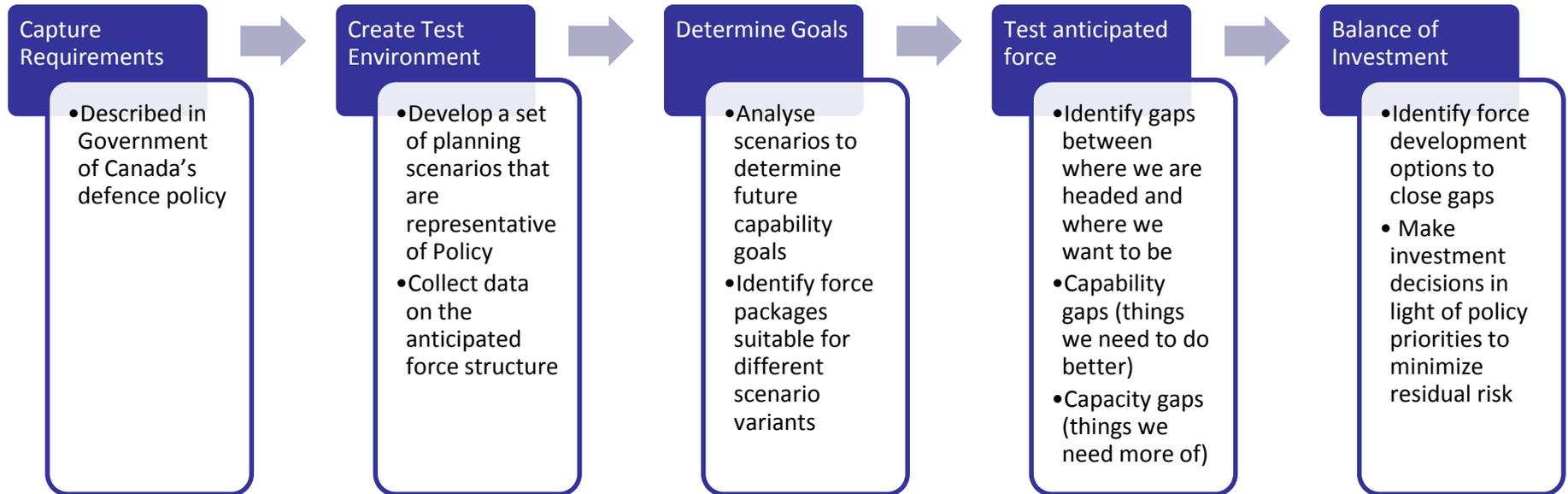
- Defence Research and Development Canada (DRDC) is the scientific research organisation within the Department of National Defence (DND)
- One part of DRDC is the Centre for Operations Research and Analysis (CORA)
 - While most parts of DRDC emphasis advice on science and technology CORA provides analyses and advice on decision making processes and supporting tools
 - The work described here comes from a CORA project to support the process used by DND to determine the investment priorities for the Canadian Armed Forces (CAF)
 - The approach used is termed Capability Based Planning (CBP)

Capability Based Planning

- Capability in defence planning can be defined as the ability to do something.
- CBP works by seeking to understand the capabilities that will be required in the future and then working back to the decisions that we can make today in order to have those capabilities in the future when we might need them.
 - This is an inherently more flexible approach than “new for old” planning where we seek to replace what we have with newer and better versions of the same things.
 - CBP allows us to steer the CAF toward a future where the demands placed upon us may be different to what they were in the past.
 - And where different solutions to those capability challenges can be introduced
 - There is an agreed generic template for a CBP process that is shared between analysts in allied countries, although each national implementation is different.

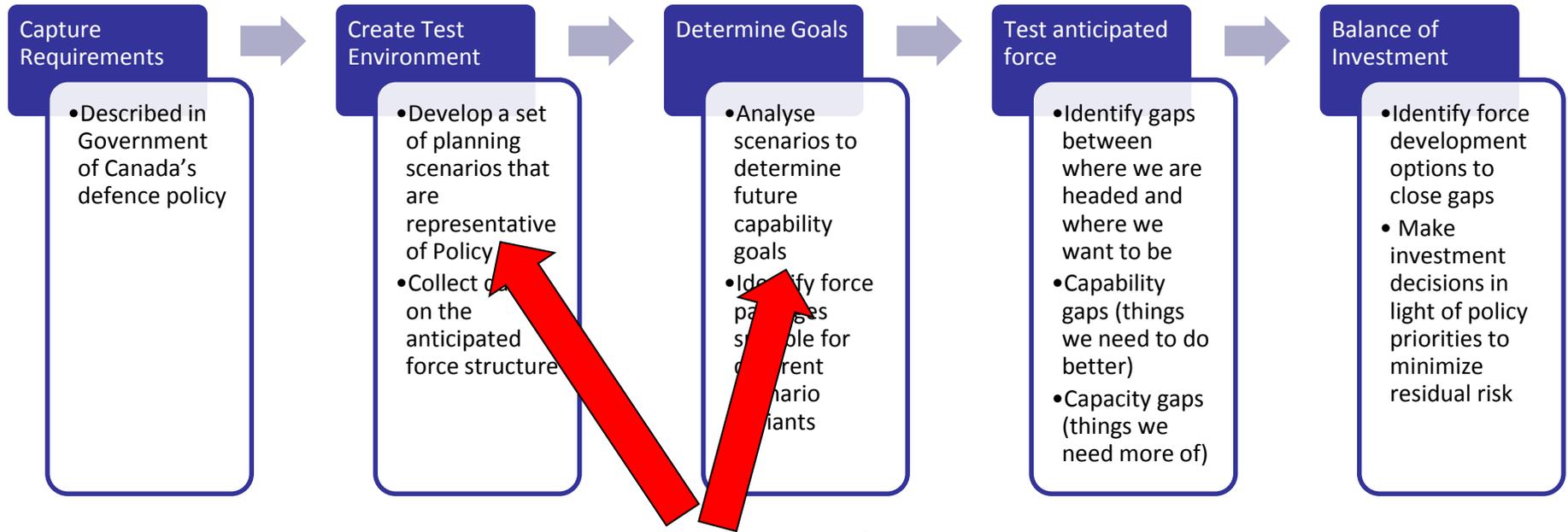
Outline CBP Process

- CBP in Canada is designed to follow a number of steps through a three year cycle



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Opportunities for
Serious Gaming

Planned Application of Gaming

- During the third step of the process planners need to take a scenario describing some kind of future military operation and to break it down into more detailed tasks for which goals can be set.
- This can be done by a planning team as a stepwise staff exercise but there are risks to getting a good product, especially as the planners are all looking at the scenario from a Canadian perspective.
- Turning planning scenarios into games offers many advantages:
 - All factions are being played creatively – avoiding compliant and stereotypical behaviour
 - Planners get to see who is doing what to whom and how and can develop better courses of action as a result
 - Plans can be tested and flaws identified

Requirements for Games

- These games are to be played to explore the dynamics of a scenario to educate military planners
 - They are not about predicting the outcome
- The games cannot consume a lot of effort and over the CBP cycle will need to be applied to a number of different scenarios
 - Favouring a flexible gaming system and one that can be played quickly
- The games need to be able to cover all kinds of activity: military, diplomatic, political, humanitarian etc.
 - Whilst at the same time not being reliant upon underpinning detailed models or simulations - which are expensive to develop and maintain
- Previous research by the team showed that games could produce a learning effect, so we wanted the planning team to participate in the games, not simply read reports on them
 - Which again leads us to favour a flexible, easy to learn and easy to play format

Matrix Games are the Answer (maybe)

- The chosen approach has been to take the Engel Matrix Game as the default approach:
 - We have experience of playing in them and in running them with Rex Brynen (and other Connections North members).
 - They meet the requirements set out on the previous slide
- Our goal now is to address more specific questions:
 1. Can we design a matrix game based upon CAF Force Development scenarios?
 2. Assuming that we can design the game, will non-gamer players be able to pick up the game and get something out of it when we run it?
 3. Will the CAF officers who do most of the work in the CBP process find it useful and want to build a series of such games into the CBP process?

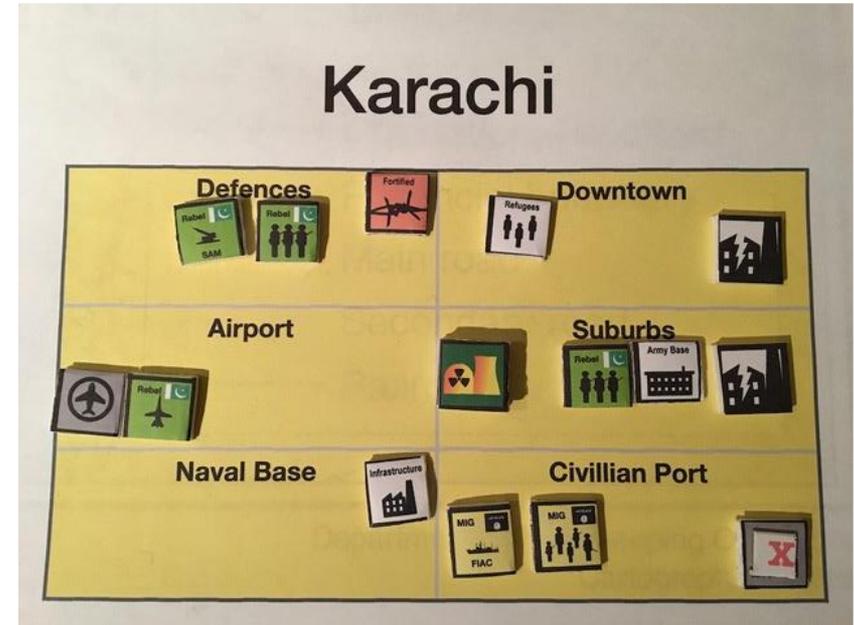
Can We Design a Matrix Game?

- We took a force development scenario set in the aftermath of an attempted coup in Pakistan and turned it into a game.
- All of the factions described in the scenario and the types of capabilities that they have can all be represented.
- Hours of fun was had with maps, drawing packages, printers and foam board.
- It would have been even easier with a Matrix Game Construction Kit!



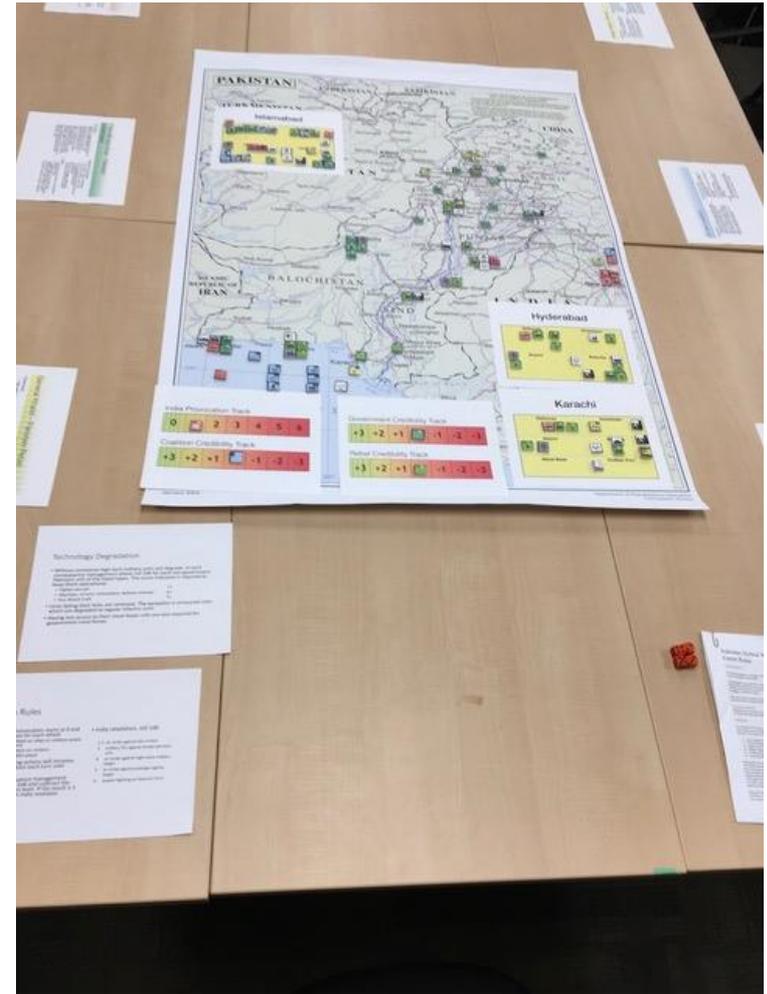
Can We Run a Matrix Game?

- On 13 February 2018 we ran the game with a group of players from CORA, DND's Policy organisation and Global Affairs Canada.
- The response was very positive. Most of the players had not played, or even seen, a matrix game before but were able to pick it up quickly.
- A number of players expressed interest in the technique and saw it as having potential in their home organisations.
- The game clearly showed a number of critical capabilities and high priority objectives that an intervention force would need to address.
- Everyone seemed to have fun!



Does the Client Like It?

- The game was played again on 21 February, this time with military officers from the client organisation responsible for CBP participating as well
- Reaction was generally favourable:
 - The utility in understanding the dynamics of the scenario was demonstrated
 - The need for expert facilitation and adjudication was identified
 - A mix of players with a range of backgrounds was seen to be beneficial
 - The need to try to capture political and military levels of play in one game - to provide the “logic trail” from policy to investment options - was also noted.



Next Steps

- This initial game was based on an obsolete scenario in order to provide a proof of concept.
- A new set of scenarios is being developed that is aligned to the new defence policy (*Strong Secure Engaged*) released last year.
- A set of games featuring these new scenarios will need to be developed between now and the end of 2018.
- Outstanding questions:
 - Will the matrix format be sufficiently flexible to cover the full set of scenarios that cover operations ranging from Canadian domestic operations through humanitarian operations and stabilisation operations to conventional war?
 - If a matrix game doesn't seem to be the right answer, what other game types should we use?

Other Games We Have Looked At

- Peace Support Operations Model (PSOM)
 - A computer-based tool developed by dstl (our sister organisation in the UK) featuring an elegant model of civil populace “hearts and minds”
 - Felt to be too high-level and too data hungry for our needs
- Rapid Campaign Assessment Tool (RCAT)
 - A table top operational wargame system also developed by dstl
 - More complex than a matrix game
 - May be of utility if we need to support the military planning team with a more detailed game, but too detailed and time consuming to build and play quickly
- Aftershock!
 - Developed by renowned Connections North members
 - Primarily an educational game looking at disaster relief
 - Elements may inspire an approach for a game for a future humanitarian operations scenario

Other problems to explore

- The relationship of serious games to the military Operational Planning Process (OPP) is an interesting one
 - The OPP features red-teaming or wargaming as a way of validating a course of action that has already been developed
 - We favour gaming first so that the military staff understand the military problem better before developing their course of action
 - Do we game to explore or game to test - which produces the better result?
- In step 2 of the CBP process we develop scenarios.
 - Can very high-level games be used to support the scenario writing process and/or to validate the scenario before seeking to have them approved for use?
- In step 5 we need to make investment choices
 - Can we develop strategic planning games to engage senior executives and military leaders in that process?

Discussion



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