

Campaign Planning and Evaluation

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Introduction

The quality of ADF campaign planning is dependent on an understanding of the situation, the quality of thinking and judgment that produces ideas to exploit the potential for change, and the quality of processes that challenge conjecture.¹ However, recent operations have demonstrated that methods for achieving this level of quality, though appropriate to the planning, monitoring and evaluation of programs in other domains, are often not well suited to Defence’s unique requirements.

Decision-makers in Defence must typically translate government direction amidst a high degree of uncertainty and in an environment where Defence is not an isolated actor, as well as being subjected to a variety of non-military influences. Contributing factors and causal dynamics are also often unclear, making the application of commercial planning and evaluation models of inputs, outputs and milestones inappropriate.

Moreover, traditional campaign planning and assessment processes used within Defence are not well-suited to integrate the level of contextual information required in modern ADF operations. This includes the need to monitor whether desired conditions are emerging in the operating environment, whether the presence of these conditions is likely to continue, and the extent to which the ADF is able to influence them. Accordingly, the then Defence Science and Technology Organisation (DSTO) was tasked to devise a new process for campaign-level monitoring and evaluation, which would be both comprehensive and evidence based. This article provides an overview of the resulting study and its conclusions.

Current campaign planning

Campaign plans are long-term planning instruments designed to articulate Defence’s intended contribution to a government initiative via a cohesive program of military activity. As shown at Figure 1, the military component of a national strategic objective can be broken down into broad ‘decisive conditions’, which in turn devolve into actionable ‘effects’ (or progress milestones).

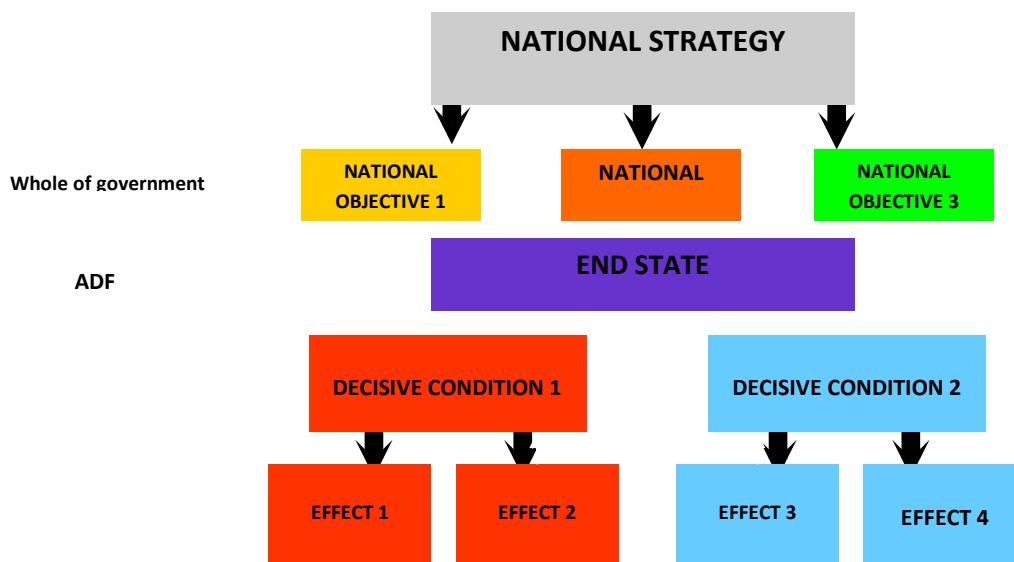


Figure 1: The evolution of ADF campaign planning

These effects define the boundaries for the range of activities the ADF plans to undertake, and describe the expected scope of influence in the area of operations.² Importantly, effects are written as outcomes rather than actions, with each describing a condition or change in condition expected to be achieved by associated tasks and activities.

The quality and longevity of a plan is contingent on the articulation of clear and logical links between the various elements of the hierarchy. This is demonstrated by the extent to which effects can be aggregated upwards to lead logically to the emergence of decisive conditions. Subsequently, decisive conditions can be seen as pre-conditions for achieving the ADF's required 'end state'.

However, the study identified that a major issue in campaign planning was often the inadequate articulation of the plan's intent, scope and expected outcomes. While plans typically included stated objectives and various levels of goals, it often was not clear why a series of operational objectives were expected to lead to an overall positive outcome or to what degree and in exactly what form the achievement of a goal could be construed as a 'success'. Hence research was conducted to identify the key information components within a campaign plan, as well as examining how they can be derived.

Currently, Defence doctrine does not prescribe the extent to which these linkages should be detailed in campaign plans. However, these links—which relate to logic, assumptions and risk—are considered to be priority information requirements for campaign planning and assessment.

For example, the logic of a course of action is often assumed to be self-evident, and the planner's perception of the operating environment is assumed to be accurate and enduring.³ However, as program failures and unsuccessful military operations have demonstrated, both logic and assumptions can be flawed or, at the very least, require revision to align with an evolving reality.⁴

It is also evident that entire plans can be developed based on a set of assumptions that are never articulated. This would significantly impact on the degree to which the intent of the plan is accurately understood and translated into appropriate action. Without articulated logic and assumptions as a reference point, plans cannot easily be modified in response to shifts in the operating environment. It also becomes difficult to identify indicators of progress or divergences from intended paths, when those paths are not clearly articulated. This is a significant obstacle for effective planning review and evaluation.

Campaign assessment

Campaign assessment is the means by which the ADF reviews progress towards the goals defined in a campaign plan. Progress is defined in terms of the likelihood of success, as well as the resources and time required to achieve success. Such assessments can be made at regular intervals, comparing actual with intended progress.

In recent years, DSTO has been involved in the campaign assessment process by assisting decision makers at all levels to:

- maintain visibility as to whether the original Commander's intent is being sustained;
- identify whether resources are being put to best effect (that is, whether gains are being built on, and where less effective activities can be discontinued); and
- where necessary, adapt initial plans and goals to align with changes in the environment.

As defined in DSTO guidance, campaign assessment must look beyond ADF inputs and outputs, and cannot be conducted by simply reviewing the performance of the ADF on operations or simple battle damage assessments.⁵ It requires the construction of a 'rich picture'—containing many contextual variables, such as the influence of non-ADF actors—to make campaign assessment a reliable source of situational awareness for senior ADF decision makers.

There are also several unique characteristics within Defence that limit the applicability of evaluation techniques from other domains, such as industry and international development agencies. Firstly, campaign planning and evaluation has traditionally not been a discrete and well-resourced activity in Defence's operational cycle. The ADF does not have a team dedicated exclusively to conducting program-

level evaluations, and interfacing with planning staff. Accordingly, any practical addition to ADF planning and evaluation processes will likely require additional staff and resources.

Secondly, any solution must be applicable to the ADF's complex and often highly-uncertain operating environment, where delay or paralysis due to uncertainty is not acceptable. While planning and assessment of the likelihood of success is undoubtedly enhanced by greater contextual understanding, there must be a limit to the time and resources expended on establishing understanding prior to acting. Therefore, evaluation frameworks must not be dependent on certainty about context, inputs, outputs, timeframes or sequence.

A third constraint is the limited capacity for gathering planning and evaluation data in a conflict or crisis situation. In so-called 'non-permissive' operating environments, where there are adversaries or the potential for deterioration if certain information becomes available to a target population, the scope for collaborative planning and data gathering through participative research is limited. Also, planning for crisis responses is characterised by short lead times for consultation and information gathering. This is contrary to many existing techniques for enhancing planning and evaluation, which advocate lengthy pre-planning scoping studies, participative research and collaborative evaluation.⁶

Finally, because the ADF operates in response to political direction, the scope for Defence planners and evaluators to determine operational direction and scale is usually limited. Hence, techniques designed to focus on the 'green-field' scoping of solutions and strategies may waste time by attempting to analyse factors which cannot be altered within the Defence context.

Existing theoretical constructs

Having identified logic, assumptions and risks as critical information elements, the study then reviewed existing theoretical constructs, as follows.

Theory of change

Theory-based evaluation frameworks, usually referred to as 'theory of change', aim to evaluate the action undertaken as part of the program, simultaneously with the theory on which those actions and decisions were based. Rather than listing or quantifying desirable outcomes, theory-based impact evaluations produce a narrative theory of the change which offers insights into why a program is executed in a given manner and, subsequently, why it did or did not generate the anticipated outcomes.⁷

All plans, programs and activities contain theory of change and associated assumptions about how and why action will bring about change. However, as Frans Leeuw and Jos Vaessen point out, that rationale may be either explicit or implied.⁸ Theory of change is not a prescribed set of steps or a methodology but rather a way of thinking that prompts planners to ask certain questions, as well as requiring the articulation of answers in a certain way.⁹ When a theory of change is made explicit, it is able to be tested against operational realities and revised as necessary.

The inclusion of theory of change in campaign-level planning offers transparency and clarity in the planning process. For Defence's planning and evaluation purposes, theory of change is valuable for determining and documenting *what* is expected to be achieved, and goes part of the way to identifying *why* those achievements are expected to come about. However, it does not systematically provide enough detail on *how* goals will be achieved, particularly in terms of assumptions about intangible consequences of action.

The absence of this level of detail accordingly reduces the potential comprehensiveness of any set of indicators of change derived from theory of change. It also does not necessarily lead to the sequencing of activities that would enable planners to combine categories of effort or recognise interdependencies. However, achieving this level of detail is necessary to define specific triggers of *when* activities should start and end (which are also referred to as 'decisive points'), and to become aware of contradictions between courses of action and the risks that need to be monitored throughout the life of the plan.

Program theory

'Program theory' is defined as an approach that brings together theory of change with a theory of action to provide a cohesive plan explaining *how*, *when* and *why* change is intended to come about.¹⁰ Similar to theory of change, the value of program theory does not reside in creating something that would not otherwise exist—a plan will always comprise some sort of intended change and a series of actions that are anticipated to achieve that change. The value of program theory is the way in which it prompts the articulation and systematic consideration of intents and actions.

The inclusion of program theory in planning and evaluation enables the development of indicators which will monitor the plan's logic and not just its outcomes. This means that planners become aware of when their plan is not leading to expected outcomes and when its assumptions and logic may require reconsideration. When used in evaluation, program theory enables greater testing of whether a failure to achieve intended outcomes was due to faulty theory of how to achieve the outcomes or faulty implementation of the program itself.

Program theory is most effective when applied during the initial planning phase. When applying it to an existing plan, it may be found that some elements of the model do not exist and the process for retrofitting them may not be desirable at a later stage. This is often the case in Defence's strategic-level planning context, where support for planning or evaluation is requested after a plan is well advanced or even being executed. The concept of converting an established plan into a program theory model is likely to be rejected as requiring excessive time and staff inputs for Defence's very tight operational decision cycles.

Cognitive and causal mapping

Another approach, which aims to make explicit the intent and logic of activities or behaviour, is 'cognitive and causal mapping'. In a military context, it has been observed that 'ultimately, shared implicit intent is the most important aspect of command and the key determinant of success in an operation'.¹¹ Having visibility of the mental model behind a plan enables subordinate commanders to decide on action that is consistent with the original intent, and also enables assessment of whether there has been or is likely to be progress towards intended goals. The value of this method 'is not in the tool itself but the conducting of the interview which will lead to the establishment of the cognitive map'.¹²

A variation on cognitive mapping, which refers to subordinate interpretations of program logic, is 'theory of mind'.¹³ It refers to the formation of assumptions about what another person is thinking (that is, their cognitive map). When executing a plan, it is necessary to make assumptions about the cognitive map of planners, in order to interpret how they intended the plan would be translated into action.

Different stakeholders may form very different theories of the mind, depending on their experience and access to planning information, which will affect the consistency and effectiveness of overall execution. The significance is that by using the term 'theory of mind', we have a vocabulary for differentiating between the cognitive map (logic) of planners and what theory of mind (subordinate assumptions) are made by those who translate the plan into action. This gives both planners and evaluators an additional level of granularity for assessing why a plan may be contested or may be failing to achieve its objectives.

While cognitive and causal mapping requires engagement from decision makers to articulate their decision path, such access to high-level decision makers is unlikely, particularly during crisis response planning phases. At best, one may hope to apply them retrospectively or at lower levels of planning. Regardless, this is essentially an exercise in surfacing the assumptions that planners are making about the intent of decision makers, which suggests that elements of theory of mind may be the most appropriate form of cognitive mapping to apply to campaign assessment.

Development of a new framework

Theory of change, program theory and theory of mind are mental models rather than techniques. In this sense, they are theories rather than methodologies, offering guidance for scientifically considering a problem rather than the actual techniques for application. The study sought, therefore, to develop a mechanism for consistently applying these mental models to the phases of planning and evaluation.¹⁴

The outcome was a ‘logic, assumptions and risk framework’ designed to promote a structured framework for thinking. In practice, it is intended to serve as a checklist for drawing out the essential information that planners and evaluators need to consider. Its representation as a matrix, facilitating the systematic extraction of a set of priority information requirements, is shown at Figure 2.¹⁵

Line of Operation					
a. From	b. To	c. Logic	d. Assumptions	e. Risks	f. Questions
Effect 1:	Decisive Condition:				
Effect 2:					
Effect 3:					
Effect 4:					

Figure 2: ‘Logic, assumptions and risk framework’ matrix

Logic

The framework’s logic component was designed with a ‘From’ and ‘To’ column to enable users to define what level of a plan or what aspect of strategic guidance they are going to nominate as a start point by placing it in the ‘From’ column. This information should be easily identifiable in any plan or program, even at the earliest drafting stages. From there, the more difficult question can be posed of why participants expect that column a) will lead to column b). It is this explanation of causality that can be captured under the ‘Logic’ column.

When populating this component of the matrix, restating the aims or objectives of the plan or strategic guidance will have little value. Instead, participants are encouraged to interpret the theory of change logic from a) to b) as they understand it, so that it can be understood in the absence of euphemisms, political semantics and organisational terminology (as inherent assumptions and risks are more obvious without the distraction of unnecessary detail and context-specific terminology).

The framework does not assume that participants can simply be asked to articulate the logic behind their plan to begin populating the matrix. As cognitive mapping has shown, it is far easier for individuals to state their goals or intended activities than to articulate the thought process behind why they seek those goals or why they believe one course of action is preferable to another.

Therefore, it is often useful to ask for a narrative of what they saw as their start point, and the story of how they envisioned progressing from there to the desired end state. This is aligned with the technique for surfacing logic through theory of change or cognitive mapping. Questions that may prompt such narrative include:

- What are the thresholds for success/failure, and what degrees of each are acceptable?
- What longer-term outcomes do we seek and what interim outcomes and contextual conditions are necessary and sufficient to produce those longer-term outcomes?

- How will our intervention be received and perceived by locals?
- Are we seeking sustainable change?
- Who are the stakeholders in this initiative? What do we need them to do and what are we assuming they are doing? When do they need to do it? What are the links between different stakeholders?

Assumptions

The process of seeking to understand the underlying assumptions of an operation can be likened to evaluating the validity of a hypothesis.¹⁶ When populating the framework, facilitators should be seeking to surface the following forms of assumptions:

- Definition of the issue for resolution;
- Connections between long-term, intermediate and early outcomes;
- Expectations for pre-conditions, inputs and mechanisms for change;
- Certainty of causal links between activities and outcomes;
- Value judgments about standards and acceptable behaviours; and
- Contextual/environmental factors that support or hinder progress.¹⁷

An assumptions column is provided in the framework linked to each strand of logic, so that when an assumption is shown to be incorrect, it will indicate that its associated logic requires revision.

Risks

The risk component of the framework provides a space to specify the ‘so what’ of the information elicited in the other columns of the matrix. Risks may emerge in two forms: the risk of each strand of logic or assumption being flawed, and the risk associated with failure to achieve each element of the plan.

Also, divergent views on achievability or likelihood of goals can be captured as risks, enabling planning to proceed despite a lack of consensus. Each risk should be stated in terms of likelihood and impact, so that there is an emerging indication of which lines of the plan are considered most likely to fail and which would have the greatest consequence.

Preliminary assessment of the new framework

Subsequent to the study, DSTO has used a structured discussion format as a means for drawing out information for populating the framework, utilising techniques commonly applied in program theory, theory of change and cognitive mapping. This format provides a significant degree of adaptability because facilitators can use the matrix to prompt questions and drive discussion where information does not flow freely or where participants are unsure of what is required.

Alternatively, facilitators may use the matrix as a reference point to anchor discussion, where information flows freely from participants but needs to be focused. Each of the categories does not have to be worked through in sequence and, in some instances, it may be easiest to go straight from logic to risks. The focus at all times is on prompting useful insight, rather than slavishly populating the template.

The technique described above has been used for applying the framework to four different types of trials. Although some details of the ADF operations to which they were applied are classified, the form and outcomes of each are described below.

Initial planning

The application of the framework in early phase campaign planning was primarily aimed at providing structure for the planning team to draw out the information they had identified as being critical to include. The provision of structure during this phase was considered necessary to demonstrate rigorous, comprehensive consideration and also to provide momentum and clarity for planners trying to navigate through the synthesis of a number of complex variables into a single cohesive plan.

The framework was first used for this purpose during the drafting phases of an ADF regional campaign plan. When DSTO's support was requested, the draft plan already had proposed objectives based on strategic guidance. The task of confirming that the guidance had been appropriately represented needed to be undertaken, as well as surfacing the detail of the proposed objectives, the scope of how they would be achieved and how success or failure would be assessed. To that end, the framework was used as the basis of a half-day workshop to review each of the draft objectives and consider how the causes, opportunities, consequences, stakeholders and desired changes in each objective were being translated into logic.

From the outset, participants were encouraged not to repeat familiar explanations from draft documents but to state the logic in their own terms of how the 'effects' in column a) were expected to lead to the achievement of the 'objectives' in column b). These statements often revealed divergences in interpretation of intent, and expectation of the mechanisms for achieving it.

Where these divergences arose among participants, they could be noted as assumptions. Discussion of logic eventually brought about a consensus, with some participants being able to justify their version of logic as being derived from directives or relevant experience. On other occasions, participants were willing to agree to a given statement of logic, as long as a number of risks associated with it were noted in the framework and the draft plan for ongoing monitoring.

Deriving the logic of some effects took longer than others, due to the viability of those that were particularly problematic or rested on excessive assumptions or risks being questioned as part of the process. As a result, a number of effects were re-drafted or moved to contribute to the achievement of a different objective. Duplications in logic or the apparent risk of high degrees of interdependency also highlighted the need to merge or delete overlapping effects.

Continual situational awareness

Prior to the initiation of one of the quarterly assessment cycles for the ADF's campaign plan for Operation SLIPPER in Afghanistan, the framework was proposed as a means of quickly exposing team members to the entire plan, while prompting them to share and discuss their interpretation of it. To do this, the matrix's first two columns were populated with 'effects' and 'decisive conditions' from the current campaign plan. Participants were then asked to populate the remaining columns in any order.

This activity quickly generated a constructive discussion that centred on the premise of the plan and an understanding of what the plan's terminology and structure were intended to mean in practice. Notably, the process revealed individuals' areas of expertise, strengths and weaknesses, giving participants the opportunity to request explanation of aspects of the plan or its logic they did not understand, fostering a group dynamic of seeking and offering assistance. The greater depth of understanding of assumptions and risks also meant that the team was better placed for appropriate allocation of tasking and to identify information requirements—and to consider what they should be looking for in those information sources.

At the conclusion of the activity, there was an enhanced sense of team identity, with less experienced team members having gained greater confidence in their understanding of the plan and, in turn, in their ability to conduct relevant analysis of assessment data. It became evident that even team members who were very familiar with the plan and its context were able to find new perspectives and consolidate their understanding of linkages. At the same time, they benefited from the ability of less experienced team members to contribute fresh insights into the risks or assumptions associated with widely-accepted logic.

Revision of plans

The framework provides an effective structure for considering the components of a plan in a short timeframe, highlighting key risks to the plan's logic. It is, therefore, well suited to use as part of a revision/redrafting process.

In early 2012, for example, the research team trialled the application of the framework to review the ADF's campaign plan for operations in East Timor. The matrix was populated with the plan's effects and decisive conditions in columns a) and b) respectively. The remaining columns were then populated as described in other applications above. The outcome was that no significant gaps or duplications in logic were identified and the manner in which effects had been grouped created a cohesive macro-theory for how each decisive condition would be brought about.

If gaps or flaws had become evident for a particular effect or an entire grouping under a decisive condition, the flawed assumptions and unacceptable risks would have highlighted why planners needed to revise the plan and what problems they needed to address. This is a particularly useful function of the framework because users of a plan may often feel that while it is flawed or outdated, they are unable to specify and justify why it requires review.

Generation of indicators for assessing progress

Campaign assessment typically uses an evaluation framework with a set of 'measures of effectiveness' assigned to each effect, which are aggregated to assess progress towards bringing about a decisive condition. The framework was used to review the existing measures of effectiveness for the East Timor campaign plan. The aim was to identify key risks and assumptions that could be added to a template for ongoing monitoring, as shown in Figure 3.

Effect 1: Destabilising elements in society have been reduced – <i>the influence of destabilising elements has been reduced to such an extent that they are no longer an impediment to the sustainable development of Country X.</i>						
Assumption: <i>Economic and social development is an impetus for the population to support the legitimate government and turn away from support to destabilising elements.</i>		Does this assumption hold true? [Narrative response]				
		Comment on assumption [Narrative response – offer any thoughts on changes, upcoming events or indicators which are anticipated to verify this assumption]				
Risk: <i>Uneven distribution of economic development could generate further destabilising elements.</i>		Has the likelihood of this risk increased or decreased? [Narrative response with supporting examples]				
		Has the impact of this risk increased or decreased? [Narrative response]				
Measure of Effect		Criteria	Rating	Supporting data / examples	Source of data	Reliability of data
1.1						
1.2						
1.3						

Figure 3: Example of measures of effectiveness, assumptions and risks response template

Those who provided input by filling out the template were also requested to make an assessment of whether each assumption continued to be true or whether it was disproven during the reporting period.¹⁸ Similarly, each respondent was also asked whether the likelihood or impact of risks identified for each effect had increased or decreased during the reporting period.

Conclusions

The benefits of the developed framework have been trialled across a diverse range of planning and evaluation phases, and for operations of very different scale and context. One of its particular advantages is that it can be applied rapidly. This makes the framework highly practical in different environments with variable numbers of participants, and regardless of whether it is used as a complete workshop or as one of several steps in a larger activity.

Its utility, for example, could give structure to a whole-of-government planning forum or be used to summarise concerns held by those responsible for executing a plan at the tactical level. In both cases, it would provide an effective and constructive form of communication to accurately capture and convey concerns.

Another particular benefit of the framework is its scalability, allowing users to choose which level of a plan they wish to take as the start point for review. For example, the logic, assumptions and risks could be reviewed from a plan's highest-level premise. Alternatively, the logic, assumptions and risks associated with lower-level effects and tasks could also be effectively scrutinised. In summary, the developed framework has the potential to significantly enhance the ADF's ability to undertake campaign assessment which should, in turn, improve the quality of ADF campaign planning.

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At the time of writing, Rebecca Karlsson worked in DSTO's Operations Support Centre, involved in cultural analysis, and the planning and evaluation of operations. She provided support to ADF campaign assessments for East Timor, Afghanistan and Solomon Islands, and the development of supporting frameworks and methodologies. She holds a Bachelor of Laws (with honours) and an Honours Bachelor of International Studies from the University of Adelaide. Rebecca now works in a management consultancy, specialising in international development project management.

Notes

- 1 L. Smith, *Design and Planning of Campaigns and Operations in the Twenty-First Century*, Australian Department of Defence, Land Warfare Studies Centre: Canberra, 2011.
- 2 A. Hickman, *Guidance on DSTO Analysis Support to ADF Campaign Assessment*, (DSTO-TN-1233), Defence Science and Technology Organisation (DSTO): Canberra, 2013.
- 3 To date, this comprises more than eight campaign assessment cycles and planning reviews for Operation SLIPPER (Afghanistan), Operation ASTUTE (East Timor) and Operation ANODE (Solomon Islands), in addition to the plan drafting process for a non-operational regional engagement campaign plan.
- 4 Examples include those detailed in Richard K. Betts, 'Analysis, War and Decision: why intelligence failures are inevitable', *World Politics*, Vol. 31, Issue 1, October 1978, abstract available at <http://www.researchgate.net/publication/229091406_Analysis_War_and_Decision_Why_Intelligence_Failures_Are_Inevitable> accessed 8 December 2015; T. McConville, 'The War on Terrorism: a new classic in groupthink', in T. McConville and R. Holmes, *Defence Management in Uncertain Times*, Frank Cass; London, 2003; F. Sheils, *Preventable Disasters: why governments fail*, Rowman and Littlefield: London, 1991; E. Larson, D. Orletsky and K. Leuschner, *Defense Planning in a Decade of Change*, RAND: Santa Monica, 2001; and S. Casey and J. Wright (eds.), *Mental Maps in the Era of Two World Wars*, Palgrave Macmillan: London, 2008.
- 5 Hickman, *Guidance on DSTO Analysis Support to ADF Campaign Assessment*.
- 6 M. van der Riet and K. Kelly, 'Participatory research in community settings: processes, methods and challenges', in M. Seedat *et al* (eds.), *Community Psychology: theory, method and practice, South African and other perspectives*, Oxford University Press: Oxford, 2001.
- 7 C. Weiss, 'Theory-Based Evaluation: past, present and future', *New Directions for Evaluation*, Issue 76, 1997, pp. 41-55.
- 8 F. Leeuw and J. Vaessen, *Impact Evaluations and Development: NONIE guidance on impact evaluation*, Network of Networks for Impact Guidance: Washington DC, 2009.
- 9 C. van Stolk, *Monitoring and Evaluation in Stabilisation Operations: reviewing the state of the art and suggesting ways forward*, RAND: Santa Monica, 2011.
- 10 S. Funnell and P. Rogers, *Purposeful Program Theory: effective use of theories of change and logic models*, Jossey-Bass: San Francisco, 2011.
- 11 D. Bryant, A. Blais and J. Baranski, 'Common Intent as a Theoretical Construct', in J. Stouffer and K. Farley (eds.), *Command Intent: international perspectives and challenges*, Canadian Defence Academy Press: Winnipeg, 2008.
- 12 D. Bouyssou, T. Marchant, M. Pirlot *et al*, *Evaluation and Decision Models with Multiple Criteria*, Springer: New York, 2006.
- 13 O. Vartanian, 'Judging Intention: integrating insights from cognitive science and neuroscience', in Stouffer and Farley, *Command Intent*.
- 14 Once a theory is found to be valid, it requires a framework for practical application. A large variety of frameworks and techniques have been developed by other agencies in the evaluation field which apply theory of change and program theory but none seems to meet the specific needs of Defence. For example, J. Dart *et al*, *Evaluation of AusAID's Engagement with Civil Society: evaluation plan*, AusAID: Canberra, 2011 and a number of other case studies published by AusAID. Also University of Wisconsin, 'Enhancing Program Performance with Logic Models', *University of Wisconsin* [website], 2003, available at <<http://www.uwex.edu/ces/lmcourse/>> accessed 7 October 2011.
- 15 D. Couzens, *Theories of Change: essential elements for any plan*, UK Ministry of Defence, Development, Doctrine and Concepts Centre: London, 2010.
- 16 E. Suchman, *Evaluative Research: principles and practice in public service and social action programs*, Russell Sage Foundation: New York, 1967; and J. Dewar, *Assumption-Based Planning*, Cambridge University Press: Cambridge, 2002.
- 17 Partially drawn from A. Anderson, *Theory of Change as a Tool for Strategic Planning: a report on early experiences*, The Aspen Institute Roundtable on Community Change: New York, 2004.
- 18 For Defence campaign assessments, respondents would typically include representatives from each force element of deployed ADF headquarters, Headquarters Joint Operations Command staff officers, and representatives from Defence's International Policy Division, as well as representatives from relevant intelligence agencies and other Government departments.