

Army 2040 Seminar
A Methodology to Address Capability Development in an Uncertain Future

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1. Introduction

The Canadian Army must continue to evolve to meet the needs of the country. In order to meet these needs, the Canadian Army considers three horizons, the Army of Today, the Army of Tomorrow and the Army of the Future¹. The Army of Today is managed in the present and projected out to a period of four years. It is primarily concerned with the allocation and management of resources. The Army of Tomorrow is designed and built to exist within the window from five to 10 years from now. The Army of Tomorrow never exists as an entity but is the transition that feeds change into the Army of Today. The Army of The Future will always be conceptual and therefore never exist, even in part. It is focussed on a timeframe of 25 years from the current date. It allows for the examination of possible Future Security Environments (FSEs), Future Operating Environments (FOEs) and the development of Future Employment Concepts (FECs).

The Canadian Army employs a Capability Development Continuum that consists of Conceive, Design, Build and Manage². A Capability is described as a particular ability that contributes to the achievement of a desired effect in a given environment within a specified time and the sustainment of that effect for a designated period³. Capability is delivered by an appropriate combination of capability components⁴. The first step in the continuum, Conceive, requires the development of and understanding of possible futures that could exist. From these worlds or FSEs the possible missions and tasks that would be required of the Canadian Army can be characterized and possible capability requirements identified.

The purpose of this paper is to describe the concept development process, the first step in the Canadian Army's capability development continuum, in an uncertain future and report on the insights gained through the use of a seminar wargame methodology to address the possible alternate futures developed.

¹ Directorate of Land Strategic Concepts (1998) 'Future Army Development Plan'

² Canadian Army Land Warfare Centre (2012) 'Introduction to Army Capability Development'

³ Chief of Force Development (2010) 'Capability Development Handbook version 6.2'

⁴ Six factors that when considered together provide the institutional cost to the production of a given capability. The factors include: Personnel, Professional Development and Leadership; Research and Development/Operational Research; Infrastructure and Organization; Concepts, Doctrine and Collective Training; Information Technology Infrastructure; and Equipment, Supplies and Services. This construct is used to break down capabilities into areas of functional responsibility. This process allows the Department to better identify, prioritize, and manage evolving capabilities within the Department of National Defence (DND) and the Canadian Armed Forces (CAF).

2. Capability Development in the Canadian Army

The CAF adopted capability based planning (CBP) in 2005, following a Chief of the Defence Staff (CDS) Action Team (CAT) recommendation. CBP is a systematic approach to force development that aims to advise on the most appropriate force options to meet government priorities. The process assesses Government of Canada policy, CDS guidance and capability goals derived through scenario analysis; identifies and validates capability deficiencies and affluences through the analysis of current and programmed capability. Supports the development of the preferred force structure to be captured in the Strategic Capability Roadmap (SCR) and enables the provision of coherent advice to the development of the Investment plan.

As mentioned previously, the Canadian Army applies CBP through the Capability Development Continuum of Conceive, Design, Build and Manage. The first step of the continuum (Conceive) requires the development of an accepted⁵ FSE. This FSE describes possible future worlds that were developed through the use of Futuring and Foresight techniques.

3. Conceiving the Future Army

The Canadian Army Land Warfare Centre (CALWC) Concepts Team follows a 10-step process (Figure 1) in the development of Alternate Futures for the Future Army. This process uses “Environmental Scanning” and “Futures Wheel” methods to develop the “Alternate Futures”.

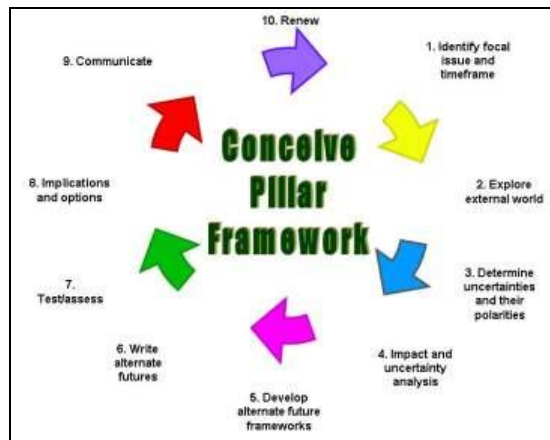


Figure 1 - Foresight Process

The detailed description of how the Alternate Futures were developed is described in Army 2040 First Look⁶. Four Alternate Futures were developed and are based upon two change drivers that were assessed as having a high impact on the future world and a high level of uncertainty as to which direction the change driver would take in relation to the other change drivers. These were Energy Security (surplus of energy vs. energy deficiency) and Global Environmental Change (crisis reaction vs. proactive action). The Alternate Futures were developed using the extremes of these change drivers and are shown in Figure 2.

⁵ “accepted” indicates that the chain of command has validated and approved the FSE for use. If multiple organizations create their own FSEs that are not relatable then capability development across the Army and the Armed Forces may be flawed.

⁶ Army 2040 – First Look (Draft), Directorate of Land Concepts and Designs, 2010.



Figure 2 - Alternate Futures

Steps seven and eight of the process (Figure 1), call for the testing and assessment of the Alternate Futures to derive the implications for the Army. The test and assessment of each of the Alternate Futures is to be completed in a seminar wargame format over four one-week periods. Seminar participation is by invitation and includes personnel from the capability development organizations of the Canadian Army, Royal Canadian Navy, Royal Canadian Air Force, Joint agencies and from select allied organizations, as well as, Defence Scientists and Academics.

The seminar participants are provided with background information on the particular Alternate Future under discussion and are asked to develop and prioritize the potential defence and security implications that the Alternate Future produces, and to describe the characteristics and capabilities that the Army would require to maintain its relevance within the Alternate Future considered.

After each Alternate Future is addressed, the results will be compared to identify Army 2040 core capabilities that are common across the four Alternate Futures, those capabilities that may not be common between Alternate Futures but are crucial in a particular Alternate Future and any signposts that may indicate the direction in which the world is progressing.

Table 1 shows the basic characteristics of the Alternate Futures.

Table 1 - Alternate Future Characteristics

| | High-Octane, Green | Global Quagmire | Materialism Gone Mad | Recyclable Society |
|---------------------------------|--|--|---|---------------------------|
| Main Goal | Prosperity | Survival | Material Gain | Survival |
| Chief Means | Cooperation | Self-Help | Self-Help | Cooperation |
| Attitudes | When world prospers – I Prosper | World a jungle – Look out for #1 or die | World is a producer and consumer. I want more | We sink or swim together |
| Concept of Self-Interest | Broad | Narrow | Narrow | Broad |
| Rough Analogies | Concert of Europe, Early Post WWI & II | Late Pre WWI & II, Middle East '56, '67, '73 | Late Roman Empire, Pre & Post 9/11 | Pre-Westphalian System |

It is acknowledged that this work does not attempt to predict the future but provides the stimulus for professional thinking and to bring together subject matter experts from all branches of the military (both nationally and internationally), Academia, and Other Government Departments to push the boundaries of conventional thought.

4. Army 2040 Seminars

The CALWC will conduct four seminar wargames, each of five day duration that will address each of the Alternate Futures in turn. The four seminar wargames will be conducted in a similar manner to allow for the results to be compared and analyzed. The seminar wargames will consist of a combination of presentations, discussions and ranking of results enabled through the use of interactive audience response technology⁷.

The seminar wargames are conducted over a five-day period following the schedule outlined in Figure 3.

⁷ For example, see <http://imlworldwide.com/products/connector/> accessed on 25 June 2013.

| | Monday | Tuesday | Wednesday | Thursday | Friday | |
|-----------|-------------------------------------|------------------------------|---------------------------------|------------------------------|-------------------------|-----------------|
| 0800-0830 | Final Set-up | Intro | Summary of Missions and Tasks | Summary of Characteristics | Summary of Capabilities | |
| 0830-0900 | | | | | | |
| 0900-0930 | | Discuss Alternate Future | Introduction to Characteristics | Introduction to Capabilities | Break | |
| 0930-1000 | | | | | | |
| 1000-1030 | Participant Check-In | Input Missions and Tasks | Input Characteristics | Input Capabilities | Exit Survey | |
| 1030-1100 | | Break | Break | Break | | |
| 1100-1130 | Introduction | Discuss Missions and Tasks | Discuss Characteristics | Discuss Capabilities | | Wargame Summary |
| 1130-1200 | | | | | | Next Wargame |
| 1200-1230 | Lunch | Lunch | Lunch | Lunch | | |
| 1230-1300 | | | | | | |
| 1300-1330 | Army 2040 First Look | Discuss Missions and Tasks | Discuss Characteristics | Discuss Capabilities | | |
| 1330-1400 | | | | | | |
| 1400-1430 | | | | | | |
| 1430-1500 | Technological and Historical Trends | | | | | Break |
| 1500-1530 | | | | | | |
| 1530-1600 | | Rank Missions and Tasks | Rank Characteristics | Rank Capabilities | | |
| 1600-1630 | Alternate Future | Discuss and Confirm Rankings | Discuss and Confirm Rankings | Discuss and Confirm Rankings | | |
| 1630-1700 | | | | | | |

Figure 3 - Schedule

- Monday - Information Day. Day one consists of gathering demographic information of the participants and surveying them to derive attitudinal information as well as providing briefings to inform their discussions. The briefings covered the topics of:
 - The Army Capability Development Process;
 - The development of First Look Army 2040;
 - The development of the Alternate Futures;
 - The developing trends in Science and Technology;
 - The historical characterizations of the Army;
 - The description of the Alternate Future under discussion; and
 - A hypothetical description of how the world evolved to produce that particular Alternate Future.
- Tuesday – Defence and Security Implications

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- The second day consists of the participants broken up into syndicates with a facilitator and scribe. The syndicates are tasked with developing missions and tasks for the Army that would result from the defence and security implications identified for the Alternate Future under discussion.
- At the end of the day, each syndicate's list of missions and tasks is combined and/or grouped together, by the CALWC Concepts Team, to form a master list that is back briefed to all participants the following morning.
- Wednesday – Army Characteristics
 - In plenary, the participants are briefed on the results of the previous day's discussions and the list of missions and tasks that was developed from the syndicates' inputs. Using an interactive audience response system, the participants are asked to rate each mission/task according to their assessment of the likelihood of it occurring in the Alternate Future, the risk to Canada if the Army could not accomplish that mission/task and their perceived importance of that task to Canadians in the Alternate Future. The relative ranking of these missions/tasks is determined using a Defence Research and Development Canada (DRDC)-developed multi-criteria analysis decision support tool named Multi-Criteria Analysis and Ranking Consensus Unified Solution (MARCUS)⁸.
 - The participants are then randomly assigned to new syndicates and asked to discuss and develop the characteristics that the Army would require given the defence and security implications that were presented in plenary. At the end of the day, each of the syndicate's lists of characteristics are combined and/or grouped together, by the CALWC Concepts Team, to form a master list that is back briefed to all participants the following morning.
- Thursday – Army Capabilities
 - In plenary, the participants are briefed on the results of the previous day's discussions and the list of characteristics that was developed from the syndicates' inputs. The participants are asked to rank each characteristic on the basis of its importance to the relevance of the Army to Canada in the Alternate Future. The relative ranking of these characteristics is also determined using MARCUS.
 - The participants are then randomly assigned to syndicates and asked to discuss and develop the capabilities that the Army would require given the defence and security implications that were previously discussed. They are asked to approach the discussions in three ways: “Capabilities that the Army does not have enough of”, “Capabilities that the Army has too much of”, and “Capabilities that do not exist in the Army”. At the end of the day, each of the syndicate's lists of capabilities is combined and/or grouped together, by the CALWC Concepts Team, to form a master list that is back briefed to all participants the following morning.

⁸ DOR(CORP) Research Note RN 2004/13, Multi-Criteria Analysis and Ranking Consensus Unified Solution (MARCUS) -User Guide, Tania Yazbeck and E. J. Emond.

- Friday – Summary
 - In plenary, the participants are briefed on the results of the previous day’s discussions and the list of capabilities developed from the syndicates’ inputs. The participants are asked to rank each capability on the basis of its importance to the relevance of the Army to Canada in that particular Alternate Future. The relative ranking of these capabilities is determined using MARCUS.
 - An outgoing survey is conducted to gather feedback on the seminar and ask the participants for recommended improvements.
 - After an extended break, the participants are briefed on the results of work and the survey.

The CALWC has conducted two of the four seminar wargames to date. The Alternate Futures of “Materialism Gone Mad” and “High Octane Green World” have been considered and the next wargame, “Global Quagmire”, will be conducted in the fall of 2013. No one Alternate Future provides all the answers and only after all seminars have been conducted and the results compared, will indicators be discovered.

5. Conclusion

The use of Alternate Futures to initiate the Capability Development Continuum has already proven useful to the Canadian Army. It is acknowledged that this work does not attempt to predict the future but provides the stimulus for professional thinking. It is the initiation of the CBP process that will assist the CAF in maintaining relevancy to Canada into the future.