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Evaluation of Land Force Readiness and Training

March 2011

1258-169 (CRS)



Canada

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Acronyms and Abbreviations

AITA	Army Individual Training Authority
ALLC	Army Lessons Learned Centre
APS	Active Posting Season
Armd	Armoured
ARTMN FD	Artilleryman, Field
Arty	Artillery
ATA	Army Training Authority
BG	Battle Group
BP	Battle Procedure
BTS	Battle Task Standards
Canada COM	Canada Command
CANFORGEN	Canadian Forces General Message
CAS	Chief of the Air Staff
CAX	Computer Assisted Exercise
CBRN	Chemical, Biological, Radiological and Nuclear
Cbt Engr	Combat Engineer
CCSO	Command Chief Standards Officer
CDA	Canadian Defence Academy
CDS	Chief of the Defence Staff
CEFCOM	Canadian Expeditionary Force Command
CF	Canadian Forces
CFB	Canadian Forces Base
CFDS	*Canada First* Defence Strategy
CFITES	Canadian Forces Individual Training and Education System
CFLAWC	Canadian Forces Land Advanced Warfare Centre
CFSEME	Canadian Forces School of Electrical and Mechanical Engineering
CFTPO	Canadian Forces Tasks, Plans and Operations
CLS	Chief of the Land Staff
CMBG	Canadian Mechanized Brigade Group
CMP	Chief of Military Personnel
CMS	Chief of the Maritime Staff
CMTC	Canadian Manoeuvre Training Centre

CoE	Centre of Excellence
COEFOR	Contemporary Operational Environment Force
COIN	Counter-insurgency
Crmn	Crewman
CRS	Chief Review Services
CSO	Command Standards Officer
CTC	Combat Training Centre
DART	Disaster Assistance Response Team
DAT	Director Army Training
DLFR	Director Land Force Readiness
DLSE	Director Land Synthetic Environment
DND	Department of National Defence
Dvr	Driver
EME	Electrical-Mechanical Engineer
Engr	Engineer
EX	Exercise
Fmn CoE	Formation Centre of Excellence
FTE	Full-Time Equivalent
FTX	Field Training Exercise
FY	Fiscal Year
Gnr	Gunner
HQ	Headquarters
IBTS	Individual Battle Task Standards
Inf	Infantry
Infmn	Infantryman
IOC	Initial Operational Capability
IT	Information Technology
IT&E	Individual Training and Education
ITCB	Individual Training Cadre Backfill
JIMP	Joint, Interagency, Multinational and Public
L	Level
LAV	Light Armoured Vehicle
LF	Land Forces
LFA	Land Force Area

LFC	Land Force Command
LFCA	Land Force Central Area
LFDTS	Land Force Doctrine and Training System
LFSAT	Land Force Systems Approach to Training
LFWA	Land Force Western Area
MCF	Main Contingency Force
MCO	Major Combat Operation
MFP	Multiple Futures Project
MOSID	Military Occupation Specification Identification
MRP	Managed Readiness Plan
MRTF	Managed Readiness Training Fleet
MTSC Meaford	Militia Training and Support Centre Meaford
NATO	North Atlantic Treaty Organization
NCM	Non-Commissioned Member
NCO	Non-Commissioned Officer
NEO	Non-Combatant Evacuation Operation
NORAD	North American Air Defence
NTC	National Training Centre, Fort Irwin, California
NTM	Notice to Move
O&M	Operations and Maintenance
OCI	Office of Collateral Interest
OCT	Observer-Controller Team
OPI	Office of Primary Interest
OPLAN	Operational Plan
OPRED	Operational Readiness
PAA	Program Activity Architecture
PCF	Primary Combat Function
PML	Preferred Manning Level
PRICIE	Personnel, Research and Development, Infrastructure and Organization, Concepts, Doctrine and Collective Training, Information Management, Equipment
Recce	Reconnaissance
RTHR	Road to High Readiness
Sigs	Signals

SORD	Strategic Operations and Resource Directive
SORP	Strategic Operations Resource Plan
TCEP	Training Capacity Enhancement Project
TES	Trained Effective Strength
TF	Task Force
TMST	Theatre and Mission Specific Training
TRADOC	Training and Doctrine Command
TTP	Tactics, Techniques and Procedures
UK	United Kingdom
US	United States
VCDS	Vice Chief of the Defence Staff
Veh Tech	Vehicle Technician
VOR	Vehicle off Road
WES	Weapons Effects Simulation
WO	Warrant Officer
Wpn Tech	Weapons Technician

Results in Brief

In accordance with the Department of National Defence (DND) Program Activity Architecture (PAA), Chief Review Services (CRS) conducted an evaluation of Canadian Forces (CF) land readiness, with particular emphasis on training. The Land Forces (i.e., Army) are a vital strategic asset with continuing relevance to the pursuit of Canada's national interests. Effective land readiness is critical to the execution of the Army's assigned missions in support of the Government's *Canada First* Defence Strategy (CFDS), and represents a total annual investment of about $4 billion.

A 2004 CRS evaluation of Vanguard Readiness[1] noted deficiencies with the Land Force training system and shortfalls in equipment holdings, including vehicles. Many of the identified issues have been addressed, although some remain unresolved. The high operational tempo in recent years, both domestically and internationally, has severely stressed the Army's operational capacity in terms of personnel and equipment resources, and has posed significant sustainment challenges. Nonetheless, soldiers and their leaders at all levels have proven their proficiency and professionalism at full-spectrum operations[2] to the satisfaction of force employers, including Canadian Expeditionary Force Command (CEFCOM) and Canada Command (Canada COM). This has been demonstrated through the performance of the Land Forces during the ongoing Afghanistan mission, as well as through concurrent earthquake relief efforts in Haiti and security support to the 2010 Vancouver Olympics, and G8/G20 Summits in Ontario.

Strategic and operational direction for land readiness and training was found to be clear, coherent and well-communicated. The lessons learned from operational theatres and the need to adjust training accordingly has generally been accomplished successfully, with some exceptions, although the need for agility has put added pressure on training organizations.

Overall Assessment

The need to develop and maintain the readiness of Canadian Land Forces through individual and collective training is aligned with federal Government roles, responsibilities and priorities, and is of continuing **relevance** to the execution of assigned missions and tasks. Readiness **performance** in terms of progress toward expected outcomes is achieved through the successful preparation of proficient soldiers, leaders, units and formations, guided by appropriate direction and having access to the associated equipment and supplies to meet their operational surge and sustainment needs. This success has been demonstrated during recent domestic and expeditionary operations. The level of **efficiency and economy** of resource utilization required to achieve readiness and training outputs is commensurate with operational needs and risks, and is subject to ongoing review and improvement.

[1] 1258-137 (CRS) CRS Evaluation on Vanguard/MCF Readiness and Sustainment, October 2004.
[2] Department of National Defence, Report on Plans and Priorities 2010-2011. Full spectrum means a range of military operations, from humanitarian assistance to stabilization operations and combat, that may be conducted simultaneously in the same operating environment.

As well as highlighting areas where the Land Force training system requires attention, this evaluation also recognized the challenge of harmonizing readiness requirements and available resources in an environment of constrained funding, particularly in light of the projected loss of sources of temporary funding to hire backfill training personnel and to procure essential equipment in support of the Afghanistan mission.

Army readiness, and in particular training, must reflect an appropriate balance of agility, robustness and affordability. It has taken time and resources to build the Canadian Army into what it is today. The evaluation noted the importance of continuing to invest in Land Force readiness and training, despite the announced drawdown of Land Forces following the main military effort in Afghanistan.

Key Findings

- Land Force readiness and training objectives are aligned with federal Government roles, responsibilities and priorities as they relate to national security, and are responsive to the security needs of Canadians.
- The Canadian Land Forces represent a vital strategic asset with continuing relevance in support of Canada's national interests. Land Force readiness and training are aligned with departmental strategic outcomes (i.e., National Defence is ready to meet Government Defence expectations) and address a demonstrable, continuing need. Given international consensus on the future global security environment, continued investment in Land Force readiness and training to support the CFDS remains a valid requirement.
- Progress toward expected strategic outputs and outcomes has been successfully demonstrated through the performance of Land Force readiness and training activities in generating required Land Forces for CF domestic, expeditionary and continental operations. Efficiency and economy have been effectively balanced against the need for agility, resilience and risk mitigation to conduct a variety of Government-assigned missions, while minimizing loss of life.
- The content and duration of training courses, whether individual or collective, is the subject of extensive ongoing review and discussion within the Land Forces' command and training hierarchy. Courses and collective training events are under constant scrutiny in order to identify savings and avoid wasting time and resources on redundant or superfluous training to meet doctrinally approved course, Individual Battle Task Standards (IBTS) and collective Battle Task Standard (BTS) assessments.
- The Land Forces have the necessary systems in place, and have achieved the directed readiness levels required to meet their assigned Defence Tasks. The Land Forces will, however, be challenged to provide an adequate sustainment capability into the future unless Land Force resources are redirected, barring additional allocations.

- It has been determined that existing documentation provides the required directive linkage between the strategic CFDS tasks, and the training and resource allocations to reach required readiness levels for those tasks, within the Army-managed readiness framework. The Managed Readiness Plan has provided appropriate direction for the execution of individual and collective training required to prepare for the CFDS operational tasks assigned to the Land Forces in accordance with the PAA.
- The Centre of Excellence (CoE) concept, while admirable in theory, has been executed poorly across the Land Forces. CoE responsibilities have been assigned to many training organizations that are not staffed, trained nor equipped to maintain these responsibilities. This issue features even more prominently with regard to those Army schools that are *de facto* multiple CoEs for courses that lack any current operational concept for use (e.g., parachute, jungle and mountain training at the Canadian Forces Land Advanced Warfare Centre (CFLAWC)).
- The Land Forces have developed an effective performance measurement system at the tactical level that provides an adequate and realistic assessment of progress and operational readiness to fulfill approved Defence Tasks.
- The Army will need to articulate a longer-term vision for the Reserves that builds on the operational expertise developed over the last eight years.
- Efforts to introduce new learning technologies and methodologies for land training have generally been bottom-up, uncoordinated individual initiatives at the tactical level. A CF-wide strategy that supports unity of effort in that regard has been lacking.

Recommendations

1. Identify specific actions to mitigate instructor shortfall issues at the principal institutional training units in light of the eventual cancellation of the temporary Individual Training Cadre Backfill (ITCB) program and Training Capacity Enhancement Project (TCEP) post-Op ATTENTION (the new CF training mission in Afghanistan). This will include actions to be taken to confirm future instructor suitability if contractors or Reserve Force members are to be employed.
   OPI: CLS
2. Establish a plan to conduct 100 percent validation of Land Force courses by the end of 2011, given the acknowledged importance of validation in the Land Force's "systems approach" to training.
   OPI: CLS
3. Review all current CoE responsibilities to ensure adequate resources have been assigned to achieve training and operational expectations. In those cases where harmonizing CoE responsibilities and resources is not feasible, consider removing the additional CoE burden from those affected.
   OPI: CLS

4. Develop employment concepts as the foundation for all courses or areas of expertise that are determined to be operationally essential and that link the capabilities to a government priority or PAA outcome. In the interest of efficiency and cost effectiveness, eliminate any training as not supportable by current or proposed concept of operation or doctrine.
   OPI: CLS

5. As part of the Canadian Manoeuvre Training Centre (CMTC) Future Operating Concept vigorously explore opportunities to provide collective training to the North Atlantic Treaty Organization (NATO) and other allies in order to offset costs and better balance its utilization throughout the year.
   OPI: CLS

6. Increase the export of CMTC capabilities to provide increased value for money and enhanced efficiency of Army collective training.
   OPI: CLS

7. As part of Army Reorientation activities post-2011, review and rationalize the organizational structure and resourcing of Land Force Doctrine and Training System Headquarters (LFDTS HQ) and schools, including CoEs, to ensure that land training management and execution achieve the appropriate balance between effectiveness and efficiency.
   OPI: CLS

8. In collaboration with force generators, develop concepts and doctrine for campaign winning enablers (e.g., Influence Activities and the Comprehensive Approach) with commensurate authorities and responsibilities.
   OPI: VCDS
   OCI: CMS

9. Ensure that Land Force foundational training reflects an appropriate balance between preparing for stability and counter-insurgency (COIN) operations and for developing skills deemed essential in other aspects of full-spectrum operations, including “conventional” major combat operations.
   OPI: CLS

10. Conduct a comprehensive, coordinated review of Individual Training and IBTS post-2011, and provide the necessary guidance for planning, including the appropriate level of investment.
    OPI: CLS

11. Ensure that land individual training strategies are effective, coordinated and evaluated, and that methodologies selected exploit modern learning theory and technologies to provide necessary training efficiently, while best accommodating the learning styles of trainees.
    OPI: CLS

12. Ensure that post-2011 Army Reorientation activities are adequately funded and resourced to provide sufficient quantities of appropriate combat vehicles and equipment to meet operational, sustainment and training needs. This includes ensuring that equipment acquisition projects include sufficient training assets and logistics and operational stocks to meet identified needs.
OPI: CLS

Note: For a list of CRS recommendations and management response, please refer to Annex A—Management Action Plan.

Part I—Introduction

Background

An evaluation of Land Force readiness and training was undertaken in accordance with the CRS Annual Evaluation Work Plan.[3] Much of the background and methodology used in this evaluation was provided by a 2004 CRS report on the level of preparedness of CF high-readiness units.[4]

The CRS Vanguard Readiness report noted a significant number of shortfalls in Land Force training, and even more particularly shortfalls in Land Force readiness due to severe shortages in equipment, vehicles and earmarked stores for rapid deployments.

Against this background, DND and the CF commenced implementation of a revised PAA as the common frame of reference for managing Defence programs and program spending to meet departmental obligations and to support the Government's CFDS.[5]

The current PAA notes four principal strategic outcomes to be achieved, one of which states: "National Defence is ready to meet Government Defence expectations."[6] Within this strategic outcome are a series of activities and sub-activities that break down the readiness factor into a number of military tasks/activities undertaken by maritime, land, aerospace and joint forces.

PAA (Land Readiness 2.2). For the Land Forces, the PAA program activity "Land Readiness 2.2" is described as follows:

> "This program provides Canada with a combat-capable, multi-purpose Army. The program will generate and sustain relevant, responsive, combat capable Land Forces that are effective across the spectrum of conflict, from peacekeeping and nation building to war fighting. This is accomplished by bringing Land Forces to a state of readiness for operations, assembling and organizing Land personnel, supplies, and materiel as well as the provision of individual and collective training to prepare Land Forces to defend Canadian interests domestically, continentally and internationally."

Long-Term Outcome. The long-term or final outcome for this program activity as published in the PAA is:

> "(Relevant, Responsive and Effective) Land Forces trained and equipped to be able to perform the spectrum of tasks in a specified period of time."

[3] 1000-10-4 (CRS) CRS Evaluation Work Plan 2008/2009 and 2009/2010, March 2008.
[4] 1258-137 (CRS) CRS Evaluation: Vanguard/MCF Readiness and Sustainment, October 2004.
[5] Government of Canada, CFDS, May 2008.
[6] DND PAA, 1 April 2010.

Sub-Activities. The sub- and sub-sub-activities listed under Land Readiness are as follows, along with their own published "final outcome" and "outputs":

- 2.2.1 Primary International Commitment

Expected Outcome: "Land Forces ready to conduct operations across a limited spectrum of conflict as directed by the Government of Canada."

Outputs:

- "High Readiness. Once a unit has achieved Level 6 training, it is confirmed at high readiness. (If not committed to a mission), continuation training must be provided at 90-day intervals to prevent skill fade; or
- Operational Readiness (OPRED). (Refers to) forces that are prepared for a specific operation. It includes mission-specific training as well as personnel strengths, qualifications, screening status and equipment status, all related to the mission."

- 2.2.2 Secondary International Commitment

Expected Outcome: "Land Forces ready to conduct operations across a limited spectrum of conflict as directed by the Government of Canada."

Outputs: As for 2.2.1

- 2.2.3 Domestic and Standing Government of Canada Tasks

Expected Outcome: "Land Forces ready to provide assistance as directed by the Government of Canada to include humanitarian assistance, disaster relief, aid to the civil power, and assistance to other government departments."

Outputs: "Four Land Area HQs; four Immediate Reaction Units of 350 personnel each; Land Force Command (LFC) contribution to the Disaster Assistance Response Team (DART) (133 personnel); Non-Combatant Evacuation Operation (NEO) company (336 personnel); plans to generate 10 Territorial Battle Groups (BG); and regeneration of air defence capability."

- 2.2.4.1 Land Training as a subset of 2.2.4 Sustain Land Forces

Expected Outcomes:

- "New Defence Task—Individual Training and Education (IT&E)—Provide the CF with sufficient numbers of military personnel, professionally trained and educated, at the right time and at the right cost to perform their assigned tasks. This includes the management of an IT&E framework that integrates CF-level planning, management, and performance measurement of IT&E.
- Trained individuals and teams ready to commence high-readiness and mission-specific training."

Outputs:

- "Individual and occupation training delivered in the quantity and quality necessary to meet unit needs and respond to the Strategic Intake Plan in accordance with IBTS;
- Well trained sub-units that are ready to proceed with high-readiness training."

For the purposes of this report, "Land Forces" and "Army" will be used interchangeably.

Aim

The aim of this evaluation is to assess the relevance and performance of current Land Force training, associated activities and enablers in support of land readiness commitments.

Objectives

In accordance with the federal Government's Directive on the Evaluation Function[7], this evaluation will address five core issues. Those issues and specific evaluation questions which will be covered are as follows:

- **Continued Need for Program.** Assessment of the extent to which Land Force readiness and training continue to address a demonstrable need and are responsive to the needs of Canadians.
  - Do the Land Force readiness and training programs and supporting activities continue to have a demonstrated need and relevance?
- **Alignment with Government Priorities.** Assessment of the linkages between Land Force readiness and training objectives and (i) federal government priorities, and (ii) departmental strategic outcomes.
  - To what extent do Land Force readiness and training activities align with Government and DND/CF priorities?
- **Alignment with Federal Roles and Responsibilities.** Assessment of the role and responsibilities for the federal government with respect to Land Force readiness and training.
  - Does the federal government continue to have a role and responsibilities with respect to Land Force readiness and training?
  - Is there duplication or overlap with other programs or services?
- **Achievement of Expected Outcomes.** Assessment of progress toward expected outcomes with reference to performance targets and program / activity reach and design, including the linkage and contribution of outputs to outcomes.

[7] Directive on the Evaluation Function, Annex A—Core Issues to be Addressed in Evaluations, April 2009.

  - Are appropriate governance and performance measurement frameworks in place for Land Force readiness and training?
  - Have the standards for Land Force readiness been achieved over the past five years (2006–2010)?

- **Demonstration of Efficiency and Economy.** Assessment of resource utilization in relation to the production of outputs and progress toward expected outcomes.
  - Does the current land readiness construct as it relates to the delivery of both individual and collective training contribute effectively toward meeting assigned land readiness commitments?
  - Is the current land training construct adequately designed, staffed, trained, equipped and sustained to conduct effective training to enable assigned commitments to be met, as outlined in the CFDS?
  - Are the most appropriate, efficient and economical means being used to achieve Land Force individual and collective training outcomes, and are there alternative ways of achieving expected results?

An evaluation matrix (Annex E) outlines how the evaluation will address the five core evaluation issues, the general evaluation questions, and the associated indicators and data sources. The evaluation matrix served as the basis for designing the evaluation data collection tools, the evaluation framework and the interview guides.

Scope

This evaluation includes individual and collective training, readiness and related activities undertaken by Land Forces personnel, and the ability of the Land Forces to achieve the assigned readiness targets associated with their CFDS tasks outlined in the PAA through the Army managed readiness system. This evaluation does not include either officer or non-commissioned member basic training.

Methodology

The research methodology pursued multiple lines of evidence, thus ensuring the reliability of information collected and results reported. The following methodologies were employed:

Initial Document Review. An initial document review of Land Force readiness and training sources was conducted to provide a basic understanding of readiness and training management (including resource allocation), training delivery, outcomes, related issues and other background information.

Literature/Documentation Review. Essential to an informed appreciation of the Land Force readiness and training universe, and in preparation for subsequent quantitative and qualitative analysis, a comprehensive review of available literature, internal documentation, applicable policies, standards and performance at the strategic and operational levels was undertaken.

Data Review and Analysis. Extensive quantitative performance data relating to Land Force readiness and training outputs and outcomes was collected and analyzed to support evaluation findings. Land Force missions assigned through the CFDS are very specific in terms of personnel, equipment and response times. Such requirements formed the basis for the quantitative analysis conducted during this evaluation.

Training Initiative Review. The evaluation assessed the appropriateness and progress of current Land Force training initiatives intended to improve the performance, efficiency and economy of training. In so doing, it assessed the extent to which Land Force initiatives were either stand-alone or reflected a broader DND/CF strategy, such as the expanded application of modern learning theories and technologies.

Interviews. Key informant interviews served as an important source of information. Approximately 50 interviews were conducted, including a number of those interviews having five to eight interviewees in attendance. These interviews provided context to the documentation review and data analysis as well as qualitative input on the evaluation questions. In order to gain as full an appreciation of issues from the perspective of stakeholders, a broad range of stakeholders were interviewed, including the Land Force senior leadership, those involved directly in Land Force training and readiness delivery and management, and force generators (commanders and commanding officers of operational formations and units) to ascertain their level of satisfaction with the trained personnel and equipment they received.

Given the high operational tempo in 2010 that coincided with the conduct of this evaluation (Afghanistan, Haiti earthquake response, Vancouver Olympics, and G8/G20 Summits), force generators (including senior leaders at CEFCOM and Canada COM, as well as unit commanders returning from Afghanistan) were interviewed regarding their assessment of the training and readiness of participating Land Force personnel and units. A number of United States (US) Army informants also provided information and opinion on the contrasting approaches to training and readiness taken by the CF Land Forces that they had observed.

In addition, training subject matter experts from the Canadian Defence Academy (CDA) were consulted regarding pedagogical issues, including future directions within the CF and the impact of technology.

Field Visits. Visits were made to LFDTS HQ (Kingston, Ontario), Combat Training Centre (CTC) (Gagetown, New Brunswick), CMTC (Wainwright, Alberta), 1 Canadian Mechanized Brigade Group (CMBG) (Edmonton, Alberta), 2 CMBG (Petawawa, Ontario), US Army's National Training Centre, Fort Irwin, California (during Ex MAPLE GUARDIAN, the final confirmation exercise for the next rotation deploying to Afghanistan) and CFLAWC (Trenton, Ontario). In all cases, relevant schools, formations and units were visited where possible (e.g., the visit to Kingston also included visits to Canadian Land Forces Command and Staff College, 1 Wing HQ and CDA). Each of these visits included interviews and discussions with command and training staffs. Data gathered previously through research was augmented by additional data gathered at many visit sites, including student records, actual training costs, standards and validation information normally kept at these locations. The on-site interviews and data collected were used to confirm training relevance and performance, to identify issues that impede

training performance, and to discuss potential courses of action to increase training relevance and performance. This was especially important to understand associated issues and risks where the training model involved alternative service delivery.

Cost Analysis. Training should be of the shortest duration, delivered at minimum cost and to the maximum benefit. Based on available documentation, an analysis was conducted to determine the efficiency and value for money of Land Force readiness and training. Evaluation team efforts focused on in-place performance measurement data that related training expenditures to intended outputs and outcomes. In addition, audits and other relevant program evaluations were consulted.

Limitations

Given the wide scope of Army training activities undertaken each year (i.e., over 400 formal individual training courses, over 600,000 student days at CTC alone, as well as individual and collective training events by all operational units and formations), CRS concentrated much of the effort for this evaluation on a thorough analysis of those individual and collective training courses and events judged to be the most operationally critical to accomplish tasks as outlined in the CFDS.

If CF operational tempo is reduced as planned in the next several fiscal years, the next cyclically scheduled evaluation of land training and readiness will address in further detail those training events and courses which are of lesser operational importance, but which are still required to attain and maintain individual and collective skills.

Description of the Land Force Training and Readiness Program

Training is one of the critical pillars of the Army's Strategic Framework[8] (see Figure 1) that guides readiness for current and foreseeable operations. Land Force training is undertaken to ensure the Army is ready to meet Government-assigned tasks. The Land Forces follow a managed readiness training cycle wherein units and formations are given missions and resources to achieve a level of preparedness appropriate to their assigned task.

[8] The Army: Advancing with Purpose, September 2009.

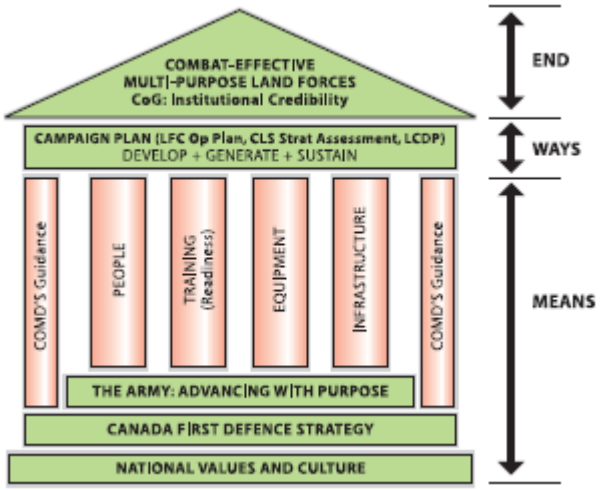

Figure 1. The Army's Strategic Framework–2009. Training is one of the key pillars that enables the Army to achieve the Defence Task outcome of producing combat effective Land Forces.

It has been recognized by modern militaries that the cost of having all Land Force elements trained to the same high level, and maintained at that high level, is prohibitively costly and undesirable. It is therefore necessary to adopt a cycle of training and preparedness that will allow for a routine rotation of high-readiness tasks amongst the principal land field force elements.

As shown in Table 1, current cost attribution in the form of planned spending for land readiness and training, as determined for the Land Readiness PAA program activities, is $4.05 billion and $3.89 billion respectively for fiscal years (FY) 2010/11 and 2011/12 and involves over 23,000 military and civilian personnel. These figures include all base and garrison support plus national task support and capital and minor capital programs, plus military and civilian pay. Direct allocations for training and readiness are divided among the principal elements of the Land Force involved in these activities; namely, the field force, the Reserves and LFDTS.

The Land Forces operating budget allocation for training for FY 2011/12[9] is approximately $366 million. Command and control allocation to support training and readiness, including HQ, is $45 million. In addition, $221 million is allocated for garrison support to training and readiness activities for a total of $632 million directly attributable to training and readiness.

[9] Land Force Command Operating Plan FY 2011/2012 v1, Annex A—Land Force Funding Model 2011 v2.

	Human Resources (FTEs) and Planned Spending ($ thousands)					
	2010-11		2011-12		2012-13	
	FTEs	Planned Spending	FTEs	Planned Spending	FTEs	Planned Spending
Military	17,414		17,797		18,194	
Civilian	6,109		6,109		6,105	
Total	23,523	4,049,320	23,906	3,890,085	24,299	3,901,812

Table 1. Land Readiness Planned Spending. This table shows planned spending for FYs 2010/11, 2011/12 and 2012/13.[10]

Land Force training for readiness to conduct operations commences with individual training, and follows a cyclical path that includes collective training in preparation to accomplish any assigned task. Personnel, units and formations that have achieved a state of "high readiness" but are not assigned to an operational mission maintain their skills through continuation training. Figure 2 shows the component parts of the training received and their place in the operational continuum within the Land-Forces-managed readiness system.

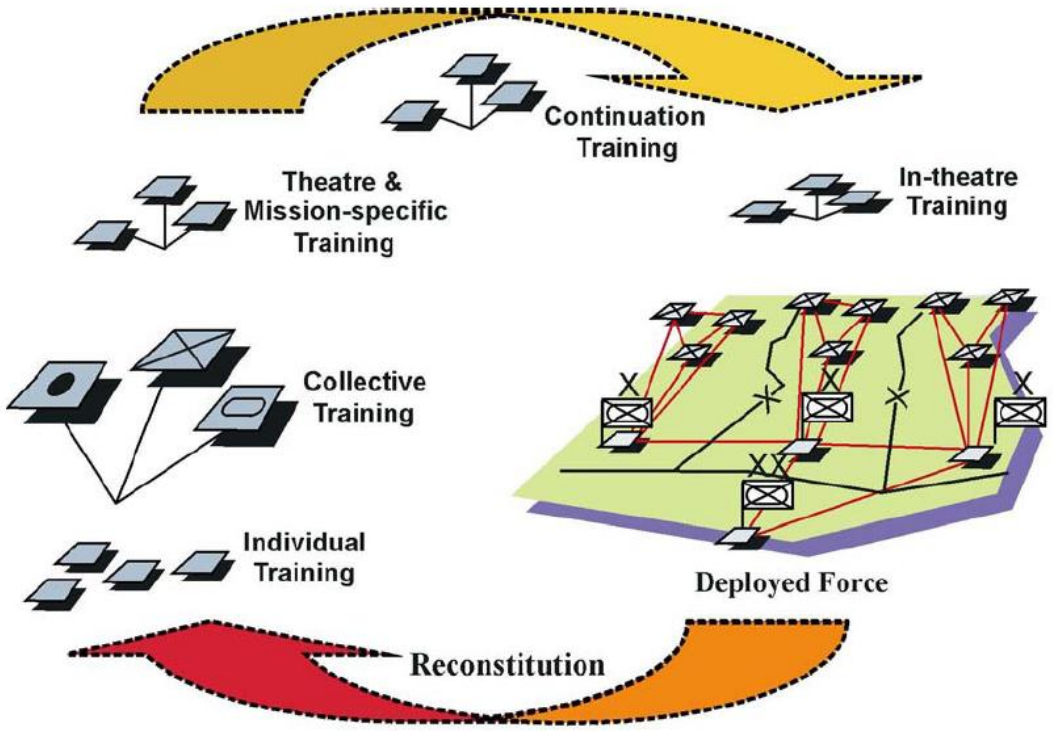

Figure 2. Training for Operations. This is a cyclical process that includes all activities required to achieve and maintain high readiness for approved Defence Tasks from individual through collective training phases.

[10] DND Report on Plans and Priorities 2010-2011, http://www.tbs-sct.gc.ca/rpp/2010-2011/inst/dnd/dnd01-eng.asp.

The Army Managed Readiness Plan is a reflection of the cyclical process noted in Figure 2, and involves the whole of the field force (see Annex B). For example, a field force unit will be tasked with one of the CFDS derived Lines of Operation, such as the provision of the Primary International Commitment (currently represented as the Army commitment to Afghanistan). A Land Force Area will then be tasked to support the individual and collective training associated with that particular task. A unit will undergo a progressively more challenging series of activities, from individual through more complex collective training events. This process is called "The Road to High Readiness."

At each stage of this progressive cycle, there are confirmations of each readiness level, from simple individual skills through to BG and above live fire exercises most often held at the CMTC. Once an organization has been assessed by a higher authority as operationally ready, it will either be deployed on that task, or will be held at that readiness level for the assigned period of time. This can involve continuation training to ensure that perishable skills are maintained as required.

Once a unit has completed its assigned duration for task readiness, it will proceed into a period of rest and reconstitution which often will see individuals taking career courses that have been deferred during the readiness cycle, or other professional development events as required.

It should be noted that even though one unit has been assigned with this particular Line of Operation, the remainder of the field force will also undertake routine training in accordance with the Managed Readiness Plan (Annex B), and will be assigned those other Lines of Operation such as NEO or Humanitarian Assistance tasks, concurrent with their training.

This evaluation concentrates principally on the delivery of individual and collective training as it relates to achieving readiness for the CFDS assigned missions,[11] and the processes undertaken for a declaration of operational readiness for a Government-assigned task prior to an operational deployment. It will not discuss training activities in an operational theatre. This evaluation will also discuss the impacts of the current Army reconstitution processes on training.

The CDA controls the Canadian Forces Individual Training and Education System (CFITES) on behalf of the CF Training Authority, Chief of Military Personnel (CMP).[12] Responsibility for certain portions of training that are within the purview or expertise of the maritime, land and air forces has been delegated to the environmental Commanders.

[11] The six CF core missions as listed in the CFDS include: "(1) Conduct daily domestic and continental operations, including in the Arctic and through NORAD; (2) Support a major international event in Canada, such as the 2010 Olympics; (3) Respond to a terrorist attack; (4) Support civilian authorities during a crisis in Canada such as a natural disaster; (5) Lead and/or conduct a major international operation for an extended period; and (6) Deploy forces in response to crises elsewhere in the world for shorter periods." http://www.forces.gc.ca/site/pri/first-premier/June18_0910_CFDS_english_low-res.pdf

[12] Defence Administrative Orders and Directives 5031-2, Individual Training & Education Management Framework.

Within the Army, the Commander LFDTS, through authority delegated by Commander Land Force Command / CLS to be the Army Training Authority (ATA), is responsible for the effective promulgation of direction for Land Force operational training from the individual through to formation levels of training. The Land Force Systems Approach to Training (LFSAT) phases and responsibilities are summarized in Table 2.

LFSAT Phase	Individual Training Products	OPIs
Analysis	Qualification standards	Director of Army Training (DAT)
Design	Training plan	DAT, Army Individual Training Authority (AITA)
Development	Training support material	AITA, Formation Centre of Excellence (Fmn CoE), Schools
Conduct	Courses, training events	Schools, Chain of Command
Evaluation/Confirmation	Performance checks	ATA, AITA, Schools, Chain of Command
Validation	Validation report	DAT

Table 2. The Land Force Systems Approach to Training Responsibility Matrix. This table summarizes the phases and responsibilities of the LFSAT.

A more detailed description of the phases of training is at Annex D.

Individual training for the Land Forces includes all activities centred on providing the needed capabilities for essential on-job performance. Individual operational training requirements related to providing the field force with operational capability are detailed in published IBTS.[13]

Once a recruit has graduated from basic training, individual Land Force training takes place at numerous venues and includes a range of training from the development of initial military occupation skills to Primary Combat Function (PCF). Training can be provided through formal "school house" training such as the courses conducted at the principal Corps schools (Armoured, Infantry, Artillery and Combat Engineer) at the CTC at Canadian Forces Base (CFB) Gagetown. Individual training can also be undertaken through decentralized courses conducted at unit or Base level which provide various additional individual "common" or generic skill qualifications not requiring residence at a CF school (e.g., Driver Wheeled). Decentralized training is also provided for the less-complicated equipment-specific courses needed with the introduction of new or modified vehicles, weapons or other equipment.

Collective training, in the CF context, involves progressively more complex and detailed levels of task performance for groups of individuals from below the sub-sub-unit level (troop, platoon, etc.) through to BG (based on an infantry battalion or armoured regiment) and finally to formation-level training. The progressive, systemic nature of individual and collective training and its details are outlined in the principal Land Force training publication, Training for Land Operations, last updated in 2009.[14]

[13] B-GL-383-003/FP-001, Individual Battle Task Standards, 2003.
[14] B-GL-300-008/FP-001, Training for Land Operations, 2009.

Table 3 provides a snapshot of the "Levels of Training" that will be used throughout this evaluation report.

Level	Description
10	Strategic command level training
9	Operational command level training
8	Regional / Joint Task Force level training
7	Formation level (Brigade/Brigade Group and above) training
6	BG (based on the principal elements of an infantry battalion or armoured regiment with attached supporting elements)/Unit / Combined arms unit training
5	Combined arms sub-unit (Combat Team – an Infantry Company or Armoured Squadron with attached supporting elements)
4	Sub-unit (company/squadron/battery)
3	Sub-sub-unit (troop/platoon)
2	Section, patrol, crew and detachment battle drills
1	Individual skills / battle tasks (physical fitness testing, personal weapons qualifications, first aid, CBRN refresher, etc.)

Table 3. Levels of Land Force Training. This table illustrates the progressive nature of Land Force training (level 1 being the least complex and level 10 being the most complex) from basic through increasingly complex interactive activities in order to achieve the desired level of readiness. The highlighted rows (1 through 7) are part of the land operations training main effort.

PART II—Current Land Force Training and Readiness

> "Apart from operations, training is the most important activity of the Land Forces. Success or failure in operations is largely dependent upon the way in which training is planned and conducted."
>
> *Training for Land Operations*, 10 February 2009

General

In the 2004 CRS evaluation of Vanguard Readiness, it was noted that the then-existing Land Force training system lacked coherence and the necessary internal checks and balances in its processes to assure senior leaders of the appropriate achievement of readiness for high-readiness tasks.

Acknowledgement of the shortcomings in the system appeared in the foreword to a subsequent 2006 doctrinal publication, *Training Canada's Army* (the predecessor to the current *Training for Land Operations*), which stated:

> "Over the course of the 1990s the training focus of Canada's Army has narrowed steadily toward current operations. Skills at brigade and combined arms battle group level have eroded, and collective training as a whole has centred on pre-deployment training events. There have been no commonly applied standards, and few training events have caused the Army to reconsider or change its doctrine. The Army has failed to make maximum use of training to facilitate learning. At the same time, our individual training system—while delivering excellent training—has become very inefficient and unsustainable."[15]

This acknowledgement by CLS has resulted in significant change in the individual and collective training regimes to meet the Land Forces' primary goal:

> "The Army will produce combat-effective and sustainable forces that deliver focused and integrated land effects across the full spectrum of operations. These forces will be strategically relevant to the Government of Canada, as well as operational and adaptive, to ensure full integration within a comprehensive joint, interagency, multinational, and public (JIMP) context."[16]

Training Rationalization

The content and duration of training courses, whether individual or collective, is the subject of extensive ongoing review and discussion within the Land Forces' command and training hierarchy. Courses and collective training events are under constant scrutiny in order to identify savings and avoid wasting time and resources on redundant or superfluous training.

[15] B-GL-300-008/FP-001, Training Canada's Army, 2006.
[16] Land Forces Command Operating Plan 2010/2011 v3.

Individual training courses can last from several hours to almost a year for significant qualification training. The duration of collective training events is based on the successful progression of the practice and assessment of the appropriate BTS. Progressively more complex training events are, by necessity, longer in order to achieve the desired successful outcomes and readiness levels.

Interviewees for this evaluation were surveyed about their personal assessment of whether courses and collective training events were too long or too short. The general impressions received from the instructors, participants and assessors were that most of the Land Force training courses and events have adequate time built in for the individual and collective group to be taught, to practise, and to be assessed. There were no significant issues raised—for or against—with the duration of most individual and collective training. However, the length of training courses and events is constantly under review, and adjustments are made where appropriate. For example, in recognition of the maturity of the Afghanistan mission and issues relating to the availability of Reserve Force augmentees, CLS eliminated months of training by limiting the high-readiness TF collective training time to 180 total days.[17]

Finding

Overall, the duration of courses and training events are kept under constant scrutiny by land staffs and field force formations and units to ensure minimal time is expended to meet doctrinally approved course, IBTS and BTS and assessments.

Individual Training

Individual Training Direction

Individual training is a critical element in the achievement of the Land Forces' highest priority goal. Land Force individual training comprises instruction on over 400 occupational and developmental courses of varying degrees of complexity. As the ATA, the Commander LFDTS is responsible for ensuring that all courses are conducted in an effective and economical manner in accordance with doctrinally up-to-date published standards. The Commander LFDTS has an overall budget allocation of over $260 million for FY 2011/12.[18] This figure does not include Regular Force pay, which is the responsibility of CMP. LFDTS also has an overall personnel establishment of 2,485 Regular Force, 616 Reserve Force, and 362 civilian full-time equivalents.[19]

Much of the responsibility for course conduct for individual Land Forces occupational training is delegated to organizations such as the Corps schools at the CTC in Gagetown, the Canadian Forces School of Electrical and Mechanical Engineering (CFSEME) in Borden, the Canadian Forces School of Communications and Electronics in Kingston, and at the Land Force Area (LFA) Training Centres across Canada. Beyond these formal residential courses a plethora of individual training courses are also conducted at the field force unit and at Garrison or Base level where it has been determined by the AITA (Commander CTC) that it is most efficient to do so.

[17] 4500-1 (DAT OTS) ATA High Readiness Training Direction and Guidance: Task Force 1-10, paragraph 12, May 2009.
[18] Land Force Command Operating Plan FY 2011/2012 v1, Annex A – Land Force Funding Model 2011v2.
[19] LFDTS Operational Plan (OPLAN) 2009-10 (Version 3) Table 5, Chapter 2 A-2.

Analysis of Land Force "foundation" documentation for the creation, direction, delegation and conduct of these individual training courses was undertaken during the course of this evaluation. The documentation reviewed ranged from the Land Forces Command Operating Plan 2010/2011v3,[20] the Army Strategic Operations and Resource Direction (SORD),[21] CLS's Strategic Assessment—the Strategic Operations Resource Plan (SORP)[22] and the Commander LFDTS Operations Plan,[23] down to the various individual and collective training plans and operational orders that direct training. The evaluation found direct linkages between these key Land Force directives and supporting documents and the individual and collective training being conducted.

Finding

Existing documentation provides the required directive linkage between the strategic CFDS tasks and the training and resource allocations required to reach readiness levels for those tasks, within the Army-managed readiness framework.

Land Force Institutional Individual Training

Having confirmed that the required direction for undertaking training was in place, a detailed review was conducted of the training provided in institutional settings through the systems approach to training.[24] Particular emphasis was placed on the combat and combat support arms training at the CTC schools at CFB Gagetown. CTC as the principal OPI for Land Force institutional training was allocated $213.4 million for FY 2011/12 by LFDTS.[25]

Analysis was undertaken of a representative sample (125 of the over 400 Land Force courses) of Course Training Plans and Course Training Standards. This sampling was based principally on those operational occupations whose training is most critical to operational success, and which inevitably are the most expensive to conduct in both time and resources.[26] It was apparent that the individual training system is adaptive and courses are being constantly modified and improved based on internal assessment and input provided by a number of external sources (e.g., lessons learned in theatre, acquisition of new equipment with technological or operational implications).

[20] Land Forces Command Operating Plan 2010/2011 v3.
[21] Strategic Operations and Resource Direction 2009 V3 Final.
[22] SORP FY 2009/10 Final.
[23] FY 2009-2010 Operation Plan, Final Version 3, 15 May 2009.
[24] "Institutional training" is conducted at Land Force training establishments and is primarily focussed on occupational training, general military training and land environmental training, as well as some specialty training. B-GL-300-008/FP-001, Training for Land Operations, 20 July 2010.
[25] Land Force Funding Model FY 2011-12.
[26] Occupations studied in depth included all officer phase training for MOSID 00178 Armd, 00179 Arty, 00180 Inf, 00181 Engr, 00187 EME, 00341 Sigs, and Non-Commissioned Member (NCM) MOSID 00005 Crmn, 00008 Fd Artymn, 00010 Infmn, 00339 Cbt Engr, 00129 Veh Tech, and 00130 Wpn Tech Land. In addition, a detailed study was taken of advanced officer courses including Forward Air Controller, Forward Observation Officer, Advanced Gunnery Courses (for both Armoured and Artillery occupations) and NCM Primary Combat Function courses for LAV Dvr, LAV Gnr, Dvr Tracked, Dvr Wheeled, Recce Patrolman and Patrol Pathfinder.

The course analysis, design and development phases of the individual training system adequately cater to the need for ongoing change during the cyclical progress of most courses studied during the evaluation. Where the system does become challenged is in introducing or re-introducing a necessary "capability." Examples of this included the re-introduction of armoured engineers, field surveying and indeed the re-introduction of the tank within the Armour School.

The principal challenges noted above derive from two streams: a loss of corporate knowledge of a formerly existing capability combined with a severely constrained institutional instructor cadre at virtually all schools visited. The latter issue has been offset somewhat by programs to hire Class B and civilian personnel as instructors and support staff on an interim basis, but this represents only a stop-gap solution. These temporary measures, the TCEP and the ITCB program, are discussed at greater length later in this report.

Leadership Development

Land Force leadership during recent operations, both at the officer and Senior Non-Commissioned Officer (NCO)/Warrant Officer (WO) levels, has been judged by stakeholders to be of a high standard. The need for agile, adaptive leaders who are capable of operating successfully in a complex JIMP environment and can "anticipate change, create opportunities, and manage transitions"[27] also underlines the need for continued investment in leadership development.

It has taken almost a decade to rebuild the Land Forces since the Force Reduction Program of the mid-1990s which resulted in the loss of significant numbers of leaders and upcoming leaders, particularly NCOs in key land occupations. To fill this leadership void, in the last decade junior NCOs and junior officers have been promoted more rapidly than had been the case in the past. While these individuals have generally demonstrated competent operational leadership during training and while deployed, they often have less experience to prepare them for other broader aspects of leadership and personnel administration.

A common theme emerged during interviews with commanders and commanding officers of operational formations and units that in-garrison leadership and personnel administration issues that typically should be resolved at lower levels are being elevated up the chain of command.

Finding

There is a need to review Land Force leadership development and education and make adjustments as required to ensure that leaders at all levels possess the right balance of skills, experience and adaptability in order to function effectively as appropriate to their rank in both their operational and institutional core skills.

[27] United States (US) Army General Martin Dempsey, Commanding General Training and Doctrine Command (TRADOC), in his keynote address to the Association of the Army Chapter Presidents Dinner, 4 October 2009.

CTC Instructor Shortfalls—the TCEP/ITCB Solution

Instructor shortfalls at CTC have been a perennial problem that in the past was resolved through temporary augmentation from field force units as required. This issue was exacerbated by the increased requirement to train for operations in Afghanistan, combined with increased course loading due to the training surge following initial implementation of the CFDS-directed personnel increases within the Army. A partial solution to this increased training requirement was found with the introduction of two separate programs: TCEP and ITCB.

TCEP, a contractor-led program, was structured to provide civilian contractors to instruct on and support those individual training courses for which there was no essential requirement for uniformed CF instructors and which did not provide any operational tactical training. This program has been used principally at the CTC schools to provide support for simulation equipment setup, repair and maintenance. It also provided contracted instructors for individual training in areas such as the non-tactical portions of driving and maintenance courses, and communications/radio/signals training which had formerly had uniformed instructors.

ITCB was designed to hire Reserve Force members under Class B terms of service to fill vacant instructor positions which would normally be held by Regular Force personnel. These vacant positions were largely those normally staffed through incremental taskings from the field force units and formations. The incremental tasks were aimed at providing CF personnel, normally in the Master Corporal/Senior NCO/WO and Junior Officer ranks, to be instructors on individual training courses involving tactical field training, particularly in the "surge" summer months when the Reserve Force and military college personnel require career course training. These field-related tactical teaching functions cannot be contracted out to civilian industry due to the need for instructors with current tactical qualifications. No Western armed forces have permitted civilian instructors to teach these types of courses for several reasons involving currency in operations and legal and personal liability issues. ITCB personnel have provided up to 42 percent of the total instructor staff at one of the combat arms schools studied for this evaluation, with lesser percentages being observed at the remaining combat and combat support arms schools.

The TCEP for FY 2011/12 is funded at $12.8 million, and the ITCB program is funded at $11.7 million.[28] These programs, funded through the VCDS Strategic Force Generation Protected Reserve, were tied to the Afghanistan mission and provided a short-term solution to what has been recognized by all interviewees as a long-term institutional problem for the Land Forces. The protected reserve also paid for an additional 650 cost moves to enable personnel to move from the field force to training institutions.

One question that was raised to the LFDTS leadership and the CTC school staffs during the evaluation concerned the lack of TCEP/ITCB instructor standardization and validation. The individuals under contract do not undergo any systematic training or assessment of their suitability as instructors prior to their employment on Land Force courses. No satisfactory answer was provided by any interviewee on how assurance of instructor capabilities was obtained.

[28] Land Force Funding Model FY 2011/12 v2.

Finding

The instructors and staff hired under TCEP/ITCB do not undergo a suitability assessment before they are employed by the Land Forces. There is no follow-up provided to the contractors and contract authorities to ensure the contracted instructors are suitable. In that instruction is skills-based, the existence of a formal quality management system for temporary instructor personnel helps reduce risk and maintain appropriate standards.

The TCEP and ITCB programs were originally to be funded until the end of March 2010. However, in recognition of the continuing need, TCEP will be funded until FY 2012/13 ($18.4 million VCDS funding for FY 2010/11, followed by Army reallocation of operations and maintenance funding—$12.8 million for FY 2011/12 and $6 million for FY 2012/13). ITCB received a final $14 million in VCDS funding for FY 2010/11.

To fill positions formerly filled by ITCB instructors post FY 2010/11, the Army had planned to rely on Regular Force personnel who were expected to be available due to the drawdown from Afghanistan, augmented by additional Class B positions at CTC Gagetown. These programs will be extended for the duration of Op ATTENTION, the new CF training mission in Afghanistan.

With funding for the two programs being terminated after Op ATTENTION, and no additional funding being made available to maintain these programs, the Land Forces may have to revert to the pre-Afghanistan model of filling vacant instructor positions at the Land Force training institutions from the field force. The impact of this will again be felt principally at the field force unit and formation levels. The reasoning presented to revert to the prior model was that the operational tempo being experienced by the Land Forces at present will be significantly diminished by end-2011, and therefore increased incremental taskings will not be as demonstrably punishing as was the case prior to 2006. It was also pointed out by some interviewees that since individuals are not expected to be deploying internationally for lengthy periods, their time away from home and home unit would not be as significant a factor as it is currently.

Despite efforts made to better balance individual training course scheduling at the principal land training institutions to reduce incremental instructor taskings and use of vehicles and equipment for training, there are inevitable factors that will prevent substantial change to the current “summer heavy” course loads.

There are two main factors affecting summer course loading. One is training for the Regular Force officers and cadets from the military colleges and civilian universities, who by their educational schedules are only available during the summer. The second is training for the majority of the Reserve Forces who are usually full-time students, and are only available during their educational systems’ summer break period.

Coincident with the summer training period has traditionally been the Active Posting Season (APS) when most Regular Force Army personnel due to be posted to their next assignment are moved. This always involved the move of a number of a field force units’ senior and junior officer and Senior NCM cadres. At the same time, this did not negate the need for those same units to provide incremental instructors to fill vacant instructor positions at the training institutions. Frequent turmoil within the leadership cadres of these units was the norm.

The Afghanistan deployment has temporarily changed some of this dynamic. LFDTS was given priority for the posting of field-experienced veteran soldiers into their permanent training cadres. While this provided operationally qualified personnel whose experience could be shared with the students, given the varied nature of the mission deployment and redeployment cycles, these "future" staff members were often not available to instruct until very late in the calendar year, and sometimes not until early in the new year, six to eight months outside of a given posting cycle. This meant that either the instructor position went vacant for that period, or backfill was required.

While the impact of the Afghanistan deployments will lessen during 2011, the summer demand period for instructors will not diminish unless radical change is made to the individual training and education systems.

To better understand this issue, a 100-percent review and analysis of all CTC school personnel establishments was undertaken which confirmed that there are indeed institutional problems in the manning of both instructor and staff positions within CTC. Even with TCEP and ITCB, all CTC schools at the time of the analysis had unfilled instructor and training support staff positions.

Finding

The $40 million spent to date on TCEP and ITCB provided effective relief in the short term to temporarily rectify a known long-standing institutional problem of incremental instructor shortfalls. It is unclear to what extent the Land Forces' reversion to an incremental instructor posting program, derived principally from individuals out of the field force, will again contribute to the significant problems that were evident when that same system was in place prior to the Afghan mission.

Recommendation

1. Identify specific actions to mitigate instructor shortfall issues at the principal institutional training units in light of the eventual cancellation of the temporary ITCB program and TCEP post-Op ATTENTION (the new CF training mission in Afghanistan). This will include actions to be taken to confirm future instructor suitability if contractors or Reserve Force members are to be employed.
OPI: CLS

Course Standards

Standards for individual training courses are set in accordance with the CFITES system through the production of Qualification Specifications required for the attainment of workplace or job skill requirements. Each course has Course Training Standards and a Course Training Plan that define the enabling and performance objectives the student must attain. It also provides the standards by which the individual passes or fails.

Each Land Force training institution also has a Standards Officer and staff whose principal function is to review, revise and provide periodic personal inspection of course training standards. Each LFA has a Command Standards Officer (CSO) who is the resident representative of the LFDTS Command Chief Standards Officer (CCSO). The

CSO provides occasional review and oversight of courses conducted at the LFA training centres. The LFA CSOs also attend Reserve Force training events on a periodic schedule to observe on the course instruction provided.

In the documentation examined by the evaluation team, no significant issues were observed on the content of individual training courses or in the course training standards that were to be achieved.

However, in order to increase Land Force individual training capacity and throughput, exporting of some courses from training establishments to units and/or formations is being considered. In the event that this approach gains momentum, oversight will be required to ensure that performance standards are maintained.

A review and analysis of available CSO and CCSO reports was undertaken by CRS. The online records commenced in 2003 and ended in September 2007. There is no further evidence of online reports from the CSOs to the CCSO. It would be expected that, with the increase in decentralization of individual training courses from the Land Force training institutions, there would be increased vigilance and oversight of these courses to ensure that appropriate standards are being achieved and maintained across the Land Forces and that these results would be readily available for both instructional lessons learned and for leaders at all levels.

Findings

- In the event that elements of Army individual training are devolved from LFDTS schools to operational units to increase training capacity and throughput, increased oversight will be needed to maintain common training standards and take care not to over-burden units.
- Standards are in place for all courses reviewed by the evaluation. However, no online reports were observed from the CCSO and staffs over the last four years, making it difficult to assess the continuing effectiveness of the LFDTS Standards organization.

Training Equipment and Vehicles

Significant dissatisfaction was expressed to CRS by the staffs of the principal Land Force training institutions and the command cadre of virtually every field force unit interviewed in the course of this study over the lack of availability and utility of vehicles and equipment for training purposes. This is one of the most pressing problems raised by interviewees as a critical shortcoming across the Land Force.

The introduction of a managed Road to High Readiness (RTHR) post-2001, and the increased operational tempo of the Land Forces since the principal part of the CF NATO commitment was moved to southern Afghanistan in late 2006, has put significant stress on the vehicles and weapons required, both for deployed operations and for training in Canada.

In 2006, a large percentage of the land field force's combat and combat support vehicles were centralized to provide for several strategically controlled training fleets, and to set aside a heavy BG's worth of vehicles and equipment for collective training at the CMTC in Wainwright, Alberta. This meant that all field force units with the exception of the infantry BG training for the high-readiness Afghanistan task had to work with reduced equipment holdings to support the nominal individual and low-level collective training that was authorized at their home units.

While this decision did allow for adequate resources for higher-level collective training for the RTHR BG, it resulted in reduced capabilities to provide unit-based individual training for what have traditionally been high-demand Primary Leadership Qualification and PCF courses. In turn, this meant that units and formations were unable to have individuals with proper training and qualifications already in place at the commencement of the high-readiness training cycle. Time that should have been spent on increasingly complex collective training was spent providing basic vehicle and equipment training courses to enable those individuals to then proceed with the high-readiness collective training.

Since discarding the former Canadian Field Force Equipment Tables for each field unit and formation, the Land Forces have relied on *ad hoc* deployment organizations and on-the-spot reorganizations of personnel, and unit vehicles and equipment. While solving an immediate problem, an institutional problem was created. Each rotation for Afghanistan saw a changing Canadian Forces Tasks, Plans and Operations (CFTPO) Task Force organization of both personnel and their vehicles. Field force unit stability became difficult.

Compounding this vehicle and equipment issue is the ongoing fact of operational losses in Afghanistan which have resulted in more Canadian-based vehicles and equipment being taken from the already reduced Land Force establishments to replace those losses.

Within the Land Force institutional training facilities, particularly at CTC, vehicle off-road (VOR) rates, which are a measurement of vehicle and equipment unavailability, continue to be at almost crippling levels. For example, in October 2009 the Armour School VOR rate for its principal armoured vehicle, the Coyote reconnaissance vehicle, was at 48 percent with no quick resolution of the problem in sight. As a senior staff member of a School remarked "I cannot go on any longer by 'making it happen'—we've reached the end."

Field force support units noted that much of the problem with the high VOR rates, aside from the lack of spare parts, was directly attributable to the lack of trained vehicle and other technical support trades people. Few field force tactical units possess a doctrinal "A" or "B" tactical echelon which, in the past, provided them with immediate first-line technical repair and supply capability. This meant that most repairs have to be carried out by a centralized maintenance organization through the Service Battalions.

Service Battalions across the field force are short of their own vehicles to conduct their own individual training, and most Close Support and General Service Battalions are insufficiently staffed with qualified supervisory-level technicians to provide anything but nominal support to their affiliated field force units. CRS analyzed a summary of 83

different individual PCF courses required yearly for just a single Service Battalion's personnel. Analysis showed that many of these PCF courses are related to the maintenance of sophisticated equipment being acquired by the CF to meet an expanding array of threats on deployed operations, which has demanded ever-higher complexity in technical training for both the users and maintainers. The increase in types and complexity of equipment, some of which is procured in small quantities and has limited availability for training purposes, continues to challenge Service Battalions.

High operational tempo in Afghanistan has also naturally resulted in a high demand for spare parts in that theatre of operations. This has had a cascade effect on the availability of spare parts for the remainder of the field force attempting to undertake training in Canada. High VOR rates in the field force are the result.

In June 2010, CLS directed a redistribution of much of the CMTC Light Armoured Vehicle (LAV) 3 vehicle holdings and redistributed much of the CMTC centralized training fleet back to the field force units. This is a step in returning some training and operational capability to the field force but it is reflective of the larger problem of inadequate numbers of vehicles to meet doctrinal and tactical demands. Field force units, outside of the high-readiness training groupings, are neither staffed nor equipped to provide anything but nominal training and operational support.

Finding

It is a challenge to provide adequate numbers of vehicles and equipment to be made available for the field force and the training system to deliver and sustain all training and operational commitments demanded by the SORD and for the RTHR. Where assets are insufficient to satisfy all needs, operational commitments and the associated training to prepare for them take precedence over lower-priority training.

Ranges and Training Areas

The Land Forces have access to a varied set of ranges and training areas across the country. Gagetown and Wainwright are two of the largest training areas in the Commonwealth, offering opportunities for formation-level fire and manoeuvre. Another large collective training area, CFB Suffield, is under long-term lease to the United Kingdom (UK) government for use by the British forces for their live-fire collective training. The CF has made use of some of the "spare" capacity at Suffield, but this cannot be relied on at the present to fill CF needs. The bulk of the CF field force is located in areas where the ranges and training areas available to them are constrictive.

The training area in CFB Valcartier only allows for the conduct of some individual technical training courses such as LAV driver, or Driver Wheeled, etc. There is little scope for any collective training, even without including live fire, above Level 2, and little or no live firing allowed outside of static rifle, pistol and grenade ranges.

CFB Petawawa, with more property than Valcartier, has scope for both individual and lower-level collective training, but is entirely inadequate for collective mechanized warfare training. Live firing of larger calibre weapons has been prohibited over much of the Petawawa training area. Within Land Force Central Area (LFCA) is the Militia

Training and Support Centre Meaford (MTSC Meaford) located in Meaford, Ontario. This is the largest of the MTSCs outside of CFB Wainwright, but is incapable of supporting training above Level 5 dry fire.

CFB Edmonton has virtually no training area to speak of, with all tactical field training taking place in Wainwright.

As a result of geography, environmental and property issues, virtually all heavy calibre weapons firing and collective training above Level 3 or 4 (particularly including live fire) must take place at either Wainwright, Gagetown or be moved out of the country to areas such as the US Army's National Training Center (NTC) at Fort Irwin, California, where weather and vast spaces will allow for this training.

Range restrictions have a direct impact on individual (and collective) training courses being conducted at these Bases. These restrictions have required movement of individuals and units to conduct training elsewhere, entailing added expenditures for the movement of troops and materiel. The impact of this is in added cost and added time to achieve directed readiness levels.

Finding

Individual training courses not requiring heavy-calibre live fire can take place at the current locations of the majority of the field force. Collective training, particularly involving live fire training above Level 3, cannot realistically take place in Valcartier or Edmonton, nor above Level 5 (dismounted) in Petawawa. Within Canada, no significant mechanized training above Level 5 can take place outside of Wainwright and Gagetown.

Individual Training Evaluation and Validation

All Land Force individual training courses conclude with a student's evaluation of the course and an evaluation of the instructors, in addition to an instructor's review of the course and its contents. In some cases, depending on the training location, a member of the School or Area standards staffs will have sat in on a course being conducted and will have given a report on the instructor and the course training standards. This internal evaluation, though somewhat weakened by fewer standards staff members available at the principal training institutions than had been the case in the past, is consistent and appropriate when performed in accordance with training policy and procedures.

Validation, the final step in the "systems approach" to individual training and described as "the most critical phase for accurately measuring success or failure and developing the Land Forces as an institution"[29] has generally not been performed at all by the Land Forces or, if done, it is only done randomly with little effort at a scientific or academic analytical approach. This has been acknowledged as a shortcoming from the highest levels of the Land Force training system, but has been caveated by the training system leadership as one of the outfalls of instructor and staff shortages across the system. There are simply not enough staff members in the training system to adequately perform this function, which is taken to be a lower priority.

[29] B-GL-300-008/FP-001, Training for Land Operations, 20 July 2010, page 3-8.

Finding

Individual training evaluation does take place and provides adequate feedback into the training system. Validation of individual training is limited.

Recommendation

2. Establish a plan to conduct 100-percent validation of Land Force courses by the end of 2011, given the acknowledged importance of validation in the Land Force's "systems approach" to training.
OPI: CLS

Centres of Excellence

The Land Forces have designated most of the institutional training facilities to be CoEs for either discrete items of equipment, such as the automatic small arms in service across the CF, to formation level training. CoEs, and their instructors, are expected to be the repositories of technical and tactical expertise on the assigned specialty.

Theoretically, this approach had much to offer. Users of any particular weapon, armoured vehicle or tactical level of training would be aware of where this expertise was to be found, and whom to contact if questions arose.

A number of problems have arisen in the execution of this CoE concept. The main issue is one of "unfunded mandates" in that responsibility has been delegated without attendant resources to fulfill that mandate. Members of every principal Land Force training institution interviewed by the evaluation team voiced their professional concern that they were generally unable to totally fulfill expectations as CoEs.

There are insufficient instructors and staff at these institutions to meet the current CoE expectations. Some CoE responsibilities have also been assigned without the attendant distribution of equipment that is required, particularly limited procurement items which have been sent directly to the Afghan theatre of operations without samples being provided to the CoE at the training facilities. ||||||||||||||||||||||||||||||||||||||||
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Two of the more notable examples of CoE problems were the reintroduction of the armoured (tank) capability provided by the Leopard 2 series of vehicles, and the reintroduction of an armoured engineering capability. The Armour School does not have the Leopard 2 variants in use in Afghanistan available for training purposes in Canada. Neither does CFSEME in Borden possess an example of the tank to train technicians on how to repair this fleet. CFSEME also does not have a Leopard 2 Armoured Recovery Vehicle for either operational training in Canada or training its personnel.

The CFSME, as a calculated risk, dropped its armoured engineering capability in the early 2000s when the Leopard C2 was being removed from service, obviating the need for an armoured engineer capability. There is now a need to reintroduce this whole capability, complete with equipment and training packages. However, being without these capabilities for more than seven years has meant that there is currently no residual

tank or armoured engineering expertise in the respective schools, yet they are still expected to perform their tasks as CoEs. This has resulted in an *ad hoc* approach to get the absolutely necessary "train the trainers" courses in Europe before the CF instructors can assume this responsibility.

Finding

The CoE concept, while admirable in theory, has been executed poorly across the Land Forces. CoE responsibilities have been assigned to many training organizations that are not staffed, trained or equipped to maintain these responsibilities.

Recommendation

3. Review all current CoE responsibilities to ensure adequate resources have been assigned to achieve training and operational expectations. In those cases where harmonizing CoE responsibilities and resources is not feasible, consider removing the additional CoE burden from those affected.
OPI: CLS

Canadian Forces Land Advanced Warfare Centre

One of the more prominent examples of a training organization experiencing issues with CoE role assignment is CFLAWC. CFLAWC with a 2010-2011 operating budget allocation of $2.99 million,[30] currently resident at CFB Trenton, is in a unique position. It has been given the CF CoE responsibilities for a number of specialized capabilities, including parachute training of all types, jungle warfare, desert warfare and mountain warfare, amongst others.

CFLAWC's uniqueness stems from the fact that while it nominally provides a CF-wide capability to instruct in these technical areas, some of the capabilities lack employment concepts and often instructors are not available for some of their specialty capabilities, such as jungle warfare. As noted in the most recent version of the SORD, "(courses that develop fragile skill sets) continue to experience difficulty in getting qualified instructors and critical student loads despite the conscious efforts made. If this trend remains unchecked, it can significantly erode our capability of fielding some very demanding, unique and specialist skill sets."[31]

For the Army, parachute training lacks a comprehensive employment concept foundation for its use, with the exception of several infantry sub-units designated to assist in responding to a domestic major air disaster.

CFLAWC, lacking suitable training areas and expertise in some cases for its CoE specialties, has ended up in many cases performing an individual training coordinating function for its specialized training. Mountain, arctic, desert and jungle warfare training cannot be conducted effectively in the Trenton area, so this training must be taken to where mountains, deserts and jungles are located. In an environment of funding constraints, the cost of this specialized training becomes problematic, and further aggravates the issue of the lack of qualified instructors.

[30] 7000-1 (DLS) Land Force Funding Model 2011-2012 V2, 5 November 2010.
[31] SORD Version 2009 V3 Final, page 3-1-9/18.

Finding

Some specialized Land Force courses, such as parachute and jungle training, are being conducted or undertaken without any employment concept foundation. CFLAWC is also not staffed, equipped or resourced to be a multiple CoE.

Recommendation

4. Develop employment concepts as the foundation for all courses or areas of expertise that are determined to be operationally essential and that link the capabilities to a government priority or PAA outcome. In the interest of efficiency and cost effectiveness, eliminate any training as not supportable by current or proposed concept of operation or doctrine.
OPI: CLS

Individual Training Summary

The Land Forces individual training effort is an extremely complex system of interdependent activities that are delivered effectively overall, though not without challenges in certain areas. The desired outcome of the system—to provide individuals trained to a level that enables learning in preparation for increasingly complex collective readiness training—is being accomplished, despite instructor and equipment shortages in some cases. With a few exceptions, the Land Forces have successfully adapted to the complexities of modern operations and have provided a suitable training and developmental path that matches the needs of the CF and also includes the opportunity for professional development for the individual.

Collective Training

Collective Training Defined

Collective training is a function of command, and is the mechanism whereby commanders create collective confidence and cohesion. Collective training is the critical link to enable readiness. Collective training is only undertaken to ultimately ensure readiness for CFDS/PAA tasks. The Commander LFDTS has defined collective training for the Land Forces as follows:

> "Collective training is the mechanism by which a commander takes a full complement of qualified soldiers, and with time, resources and applied tactics, techniques and procedures (TTP), produces cohesive combat-capable tactical groupings. The aim of collective training in the current Land Force (LF) context is to produce BGs, task forces (TF) or formations that are operationally deployable within realistic warning time frames. Collective training comprises Training Levels 2-7 and is conducted to meet the standards presented in assigned BTS. The collective training activity conducted by units must be scheduled to meet the requirements of the Managed Readiness Plan (MRP) in order to provide LF contributions to operations."[32]

[32] B-GL-300-008/FP-001 Training for Land Operations Chapter 6, Section 1.

Managing the Road to High Readiness

Under the Land Force Managed Readiness System, created in November 2005,[33] the MRP is prepared annually. The units and formations are tasked, through a cyclical schedule, to assume the responsibilities to be ready to execute the principal CFDS/PAA tasks.

In a given year, under the MRP, a Lead Mounting Area is selected in rotation from Land Force Western Area (LFWA), LFCA or Land Force Quebec Area, to provide the "mounting," or principal force generation support functions, for the designated BG and battalion group tasks. The Force Generation Task Matrix for 2009/2010 at Annex B illustrates the designation of formation, units and sub-units for all of the Land Force CFDS/Defence Plan tasks.

Within the MRP, some units will be given direction to prepare for the high-readiness international and domestic tasks. These organizations will be given priority for personnel, vehicles and equipment, and other resources as determined for the duration of the designated period. The remainder of the Land Forces will undertake training at a reduced level. Annex C provides a brief summary of the differences in collective training undertaken by the high readiness and reduced readiness formations and units.

Finding

The Land Force MRP has provided appropriate direction for the execution of individual and collective training required to prepare assigned units and formations to be ready for the CFDS operational tasks assigned to the Land Forces section in accordance with the PAA.

Centrally Managed Vehicle and Equipment Training Fleets

The CMTC training fleet and the Managed Readiness Training Fleet (MRTF) were created as part of the Land Forces' Whole Fleet Management process in FY 2005/06. These two fleets were intended to be part of an overall plan for the Land Forces to re-allocate training and operational vehicles into strategically controlled fleets. This plan envisaged an operational fleet dispersed to the field force units and formations, and training fleets that could be controlled at the operational and strategic levels. This plan also envisaged further operational and logistics stocks of vehicles and major equipment holdings to back up the first two "fleets."

In practice, the formations and units were stripped of most of their tactical vehicles and equipment to create the two separate training fleets. The first training fleet was held at CMTC Wainwright and consisted of enough major vehicles to equip a BG undergoing training. It was estimated that this centralized fleet would save both time and money by reducing the vehicle and equipment transit costs. In 2010 CLS directed that the training fleet held at CMTC would be reduced in order to return some of the vehicles back to the field force units during FY 2010/11.

[33] Managed Readiness System, Annex A to 3350-1 (DLFR), 25 November 2005.

The second training fleet, the MRTF, consists of a number of LAV variants, specialized armoured and engineering vehicles and equipment, and unique items such as M777 artillery pieces. The introduction of small numbers of very specialized "mine-proof" or hardened vehicles and technically sophisticated equipment, bought in response to the changing threats in Afghanistan, have put pressure on the Army central staffs to ensure timely delivery of enough of these vehicles and equipment to TFs undergoing their RTHR individual and collective training.

When a field force formation or unit is not the designated RTHR organization, it will only have a residual tactical vehicle or equipment capability resident in its locations with which to train. To bring the training fleets up to the authorized strengths, field force unit tactical vehicle and equipment holdings have been reduced to the point where some armoured reconnaissance squadrons and mechanized infantry companies lack vehicles to train on. The field artillery regiments in Canada do not have the M777 artillery piece, currently in use in Afghanistan. The centralization of engineering and specialized logistical support vehicles and equipment has also had a similar effect on all combat engineer regiments and service battalions.

Lack of sufficient vehicles and equipment that would cater to training, operations and logistical holdings has had a direct impact on training and readiness across the whole of the land field forces. Despite the CF BG withdrawal from Afghanistan in 2011, there will still be an ongoing requirement for an MRTF. The units and formations on the RTHR will still require training with those small numbers of specialist vehicles that have been purchased for the Afghan mission. Some of the current MRTF vehicles may be left at various Land Force Bases in order to have a "home" but there will remain the issue of training on and maintaining these orphan vehicles, regardless of where they are sent.

Findings

- The principal *raison d'être* of the training fleets and the MRTF—to ensure sufficient assets to facilitate training for operations (primarily the Afghanistan mission at this time)—will be diminished with the return of the majority of Land Force personnel from Afghanistan in 2011.
- There remains a need to centrally control those very small numbers of highly specialized vehicles and equipment that will only be made available to units and formations on the RTHR.

Collective Training Personnel Issues

It was noted by a majority of the current field force command and staff interviewees for this evaluation that non-resident augmentee personnel (both Regular and Reserve) continue to arrive for individual and collective training lacking the appropriate stated prerequisite qualifications for that training. The causes for this vary, from short-notice taskings of individuals who were not expected to deploy, to a failure of the sending unit to adequately ensure compliance with directions. The numbers can vary from tasking to tasking, from single individuals up to dozens involved with the BG and above either in a support or operational role.

These prerequisite qualifications for training are posted in the CFTPO system which provides position-to-position direction on qualifications for all training and operational tasks. These prerequisites are meant to be the basic underpinning of training. Simply stated, an individual cannot progress from one level to a higher level without successful completion of the required standards of the previous level.

The problem of under-qualified personnel arriving for the next level of training has most often been exhibited in the individual augmentees arriving at their respective Task Force field units for the collective training portion of the RTHR. The problem continues to exist with both Regular and Reserve Force augmentees, and crosses the various Environments.

Once these under-qualified individuals arrive for training, there is an inevitable surge requirement to get them trained to the appropriate levels before they can even be considered for progression to higher-level training. This involves taking instructors away from their own higher-level training schedules and responsibilities, thereby reducing or compromising their own capabilities to train themselves and their units within allotted timings. The result is lost time, and poor use of scarce training personnel, vehicles, equipment, ranges and training areas.

Finding

The continuing problem of under-qualified personnel arriving for the next level of training creates challenges for the collective training system.

Training Synchronization with the Navy and the Air Force

A number of the CF's CFDS operational tasks imply the need for joint capabilities that involve the Army working alongside Navy and/or Air Force elements—i.e., from the smaller tasks such as NEO, up to the larger BG and formation tasks. Experience has shown that there will be few operations undertaken without some semblance of "jointness" being required. In Afghanistan, the necessity for interaction between land and air forces to achieve desired effects is demonstrable.

This demonstrated need has not necessarily been reflected during either individual or collective training within the Land Forces. While the available Land Force doctrine is quite explicit on the needed interaction between, as a minimum, land and air forces, there is little organized joint training undertaken during either the individual or collective training phases in the Land Forces RTHR. Joint collective training involving forces at the same levels promotes synergy of effort and training efficiency.

Also, changes in Afghanistan tour lengths for certain command elements has resulted in asynchronous training timings between the main Task Force BG and most of its component elements, and the Task Force HQ that will command it. This has meant that the Task Force and the TF HQ have not been able to develop their "team" relationships for the past several rotations.

These are but two examples. During research and interviews for this evaluation, it was observed that little effort is made to seriously consider synchronization of training between any of the force generation Environments. There have been several efforts over the past decade to create an overall CF National Joint Training Program that have met with mixed success.

Canadian Manoeuvre Training Centre

CMTC, as a lodger unit of CFB Wainwright, was established to become the focal point for Level 6 collective training for the Land Forces. It had an allocated full program cost of approximately $28 million for FY 2011/12.[34]

Included in the establishment of CMTC was the building/rebuilding of new transient quarters, and a new CMTC HQ building with full access to the metered simulation systems used during training. Also built were storage hangars for the training fleet positioned in Wainwright, maintenance hangars and supply and storage facilities.

There is considerable land available in the Wainwright training area which allows scope for multi-serial exercises, including complex live-fire training. CMTC has the flexibility to provide a realistic training environment for general purpose warfare training. Given current operational requirements, CMTC was able to suitably recreate Afghanistan small village settings throughout the training area, plus pseudo-recreations of Forward Operating Bases, Kandahar airfield, and the Provincial Reconstruction Team base.

CMTC was designed and developed (on a reduced scale) on the basic structure of the US NTC at Fort Irwin, California. The principal CMTC organization includes a full-time HQ staff, a full-time cadre of observer-controller teams (OCT), and a Contemporary Operational Environment Force (COEFOR).

The OCT fulfill both a coaching and an assessment role. During collective training, OCT personnel are assigned to a particular tactical group and provide both a coaching and mentoring function during the training period. During the readiness assessment phase, the OCT provide local assessment of the achievement of BTS, and provide quick feedback to the assessed groupings through after action reviews as soon as possible after completion of the training event. Both OCT staffs and exercise participants have commented favourably on this system and have noted that it is an effective way of assessing training progression, and training success.

The COEFOR, a modern derivation of what used to be called the “OPFOR” (opposing or enemy force), is a full-time group of approximately 50-70 role-players, and is formed from a mix of Regular and Reserve Force personnel. Most COEFOR members will initially be sent on a US COEFOR training course that teaches members to think like an insurgent or designated training opponent in order to achieve CMTC or other Land Force collective training exercise objectives. The COEFOR’s expanded role may also include role playing of local security forces, allied forces and NGOs or international governmental organizations that may be found in a particular theatre of operation. In

[34] Land Force Command OPLAN FY 2011/12 v1, Annex B—The Land Force Funding Model 2011 v2.

addition, the COEFOR controls the activities of any locally employed persons who are role-playing as indigenous members of a community similar to that a Task Force may encounter when deployed internationally.

Much of the Land Force collective training simulation equipment outside of CTC has been centralized at CMTC. This allows CMTC to have a centralized, fully metered tracking capability of all available simulation equipment from the individual soldier up through armoured and "soft skinned" support vehicles. There is enough simulation equipment available at CMTC to track a complete BG throughout its collective training and readiness assessment period.

In terms of the status of the vehicle and equipment training fleet held at CMTC, the concept of holding a fleet at CMTC which is already fitted with all of the simulation equipment, and does not have to be shipped back and forth across the country, is a good one. However, it has proven to be impractical due to a shortfall of field force vehicles and equipment in general, exacerbated by operational losses and general wear and tear of all vehicles and equipment over the last few years. This fleet had become a luxury which the Land Forces could not afford, and much of this fleet is being redistributed back to the field forces.

One of the factors which inhibit CMTC's utility is weather. The location of CMTC militates against its use during the winter months if a high-readiness task force is in the final collective training phase of its RTHR. It is simply too cold and inclement to use in the winter time if a force is going to be deployed outside of Canada into warmer or more arid regions. This has resulted in the Land Forces having to export the final collective training phase, including a full complement of CMTC training support staff, to the US on several occasions, most recently in February 2010 to the US NTC in Fort Irwin, California, at an approximate cost of $40 million.[35]

More generally, CMTC's lack of 365-day a year utility for collective training has led to some gaps in the utilization of training facilities and equipment, and the concomitant employment of a number of the full-time CMTC staff members during those periods. CMTC has sought to broaden its contribution to the Land Forces training system by exporting certain capabilities, such as sending out COEFOR personnel to work with field force units earlier in their collective training periods across the country. Some OCT members have been "exported" in a similar fashion to assist in collective training elsewhere.

The preparation and execution of two Ex MAPLE GUARDIAN serials per year fully occupies CMTC's OCT and COEFOR for three months per year (six weeks per TF). Throughout 2009 and 2010, CMTC exported teams of OCT and COEFOR to the Lead Mounting Areas to assist in home station Road to High Readiness training, thus occupying CMTC's OCT and COEFOR for another six months of the year (three months per TF.) CMTC has directly supported both TF 1-10 and 3-10 in this manner for their lead-up training for the respective Ex MAPLE GUARDIAN. The remaining three months of CMTC's calendar year are occupied with leave, posting changeovers, internal training, career courses and additional exported support to training, including the Combat Team

[35] E-mail CLS Compt/CRS, 3 June 2010.

Commander's Course, Ex MAPLE DEFENDER serials, After Action Reporting courses, and reciprocal support to the US NTC. CMTC also has Centre of Excellence responsibilities for several unique and operationally-relevant activities which require management by the OCT and senior COEFOR personnel.

While use of US facilities may provide a temporary collective training solution, increased use of US facilities to replace CMTC capabilities full-time would be neither economical (given logistical requirements) nor reliable. The 2010 Fort Irwin exercise was an example where a US facility had spare training capacity available outside of their normally fully scheduled training use. This is one of the principal reasons the Army has had to shift their Level 6 "winter serial" confirmation exercises from US base to base. Fort Bliss, Texas, was the previous US facility used for this purpose, and may be used again if the US schedule permits. However, reliance cannot be placed on the ready availability of US facilities for these purposes.

The future of CMTC needs to be reviewed in the context of Army transformation, given its current level of utilization due to factors such as climatic limitations. The notion of offering a collective training capability for allied armies should be vigorously explored.

Findings

- Overall CMTC is an adequately funded training facility run by a very professional resident group who are equipped with the necessary training tools, and who perform their function effectively to achieve the required Land Force BTS training objectives, weather permitting.
- When the resident CMTC vehicle training fleet is dispersed back to the field force some of CMTC's flexibility to accommodate emerging training needs will by necessity be reduced such that longer term planning and scheduling for future training events will be required.

Recommendations

5. As part of the CMTC Future Operating Concept, vigorously explore opportunities to provide collective training to NATO and other allies in order to offset costs and better balance its utilization throughout the year.
OPI: CLS

6. Increase the export of CMTC capabilities to provide increased value for money and enhanced efficiency of Army collective training.
OPI: CLS

Use of Simulation in Training

The Land Forces have put most of their simulation resources into various aspects of collective training. This includes most of the work undertaken through Director Land Synthetic Environment (DLSE) as the delegated office for simulation in the Land Forces with a FY 2011/12 operating budget allocation of $12.3 million.[36] Most of the DLSE

[36] Land Force Command OPLAN FY 2011/12 v1, Annex B—The Land Force Funding Model 2011 v2.

output is provided through a contract with Calian Partners who provide experienced ex-military members and information technology (IT) specialists. Their work is principally aimed at providing IT-focused collective training exercises from the minor tactical level up through operational/strategic levels.

This service has been used to provide support for computer-assisted exercises (CAX) to prepare the BG and formation HQ on the RTHR for Afghanistan. It has also been used in preparations from tactical through strategic levels for joint exercises during the Vancouver Olympics, and the G8 and G20 training periods, which can push the existing capability to the limit. However, DLSE is allocated CLS funding based solely on its support to Army training and readiness, and lacks the ability to independently re-capitalize and upgrade its equipment to meet the growing demand for what is no longer an exclusively Army asset.

The use of tactical-level simulation equipment in support of collective training is focused at CMTC, with a small managed set of equipment also provided to the high-readiness groups on the RTHR for use in earlier stages of training. At CTC in Gagetown some simulation equipment is available for use in individual and low-level collective training exercises. However, simulation equipment is in very limited supply, such that a reliance on traditional training hardware and vehicles at CTC remains the norm. This evaluation found that there is little modern simulation equipment available for Levels 1 to 4 training. Much of what is available is quite old and not particularly suited to, for example, individual levels of driver and gunnery training. This includes the lack of sufficient simulation equipment for a number of the common light and heavy armoured vehicles. A proposed “way ahead” project that will substantially update and upgrade this deficiency is currently under development within Director Land Requirements.

Finding

There is adequate available collective training simulation equipment to prepare one BG on the RTHR. There is adequate CAX capability provided through DLSE to enable successful collective training up to the strategic level. There is currently inadequate simulation equipment available at the individual level to provide a cost-effective alternative to equipment and vehicle usage.

Performance Measurement

In the collective training phase of the Land Forces training system, collective battle tasks have the same role as those found for individual training, and BTS mirror those qualification standards. Land Force doctrine explains the operations of war and their conduct. Battle tasks divide these operations into component tasks, explaining the time, accuracy standards and the conditions that define success in each task. BTS are the fundamental building blocks of collective training and provide the operational measure against which effectiveness and efficiency of collective training is gauged.

The Land Force Command Operating Plan provides the definitive direction for the achievement of collective training in the Land Forces in relation to the approved Defence Tasks.[37] The BTS or collective training standards to be achieved are to be found in B-GL-383-002/PS-002, Land Force Battle Task Standards.[38] These collective training BTS are a logical progression and complement to the current IBTS.

Assessment of the achievement of the BTS is always performed under the "Two Up" principle; i.e., the individual or tactical grouping under assessment is always assessed by someone two ranks higher than the individual or leader under review. For example, at Level 6, the BG, led by a Lieutenant-Colonel, will be assessed for the achievement of a directed readiness level by a Brigadier-General.

There will always be some subjectivity in judgment on the achievement of higher levels of readiness, but the evaluation noted that scope for subjectivity is minimal compared to the overall standards and assessment processes in place.

The principal CF force employment Commands, Canada COM and CEFCOM, were also consulted during the course of this evaluation about their assessment of the performance of the tactical groupings provided to them for operational use. All senior staff members interviewed expressed their satisfaction with the quality and responsiveness of the "product" provided by the Army force generation process in support of the Afghanistan mission, as well as other recent domestic operations. All mission timelines were met for not only the expected Afghanistan Task Force and Task Force Headquarters rotations, but also for the Vancouver Olympics, G8/G20 Summits and Op HESTIA (Haiti earthquake relief efforts).

In terms of demonstrating the Army's readiness for rapid intervention in the event of international crises, Op HESTIA in particular provided ample evidence of its ability to respond on short notice. In the aftermath of the January 2010 earthquake, over 1,000 Army personnel and equipment deployed to the disaster area. While operations of the magnitude and coordination complexity of Op HESTIA will always present challenges and lessons learned for the future, the Governor-General summed up the overall CF response during the March 2010 Speech from the Throne, "In Haiti, the Canadian Forces have taken the lessons learned in Afghanistan and put them to use in very different circumstances. Their speed and effectiveness in deployment were and are unsurpassed in the world."

Finding

The Land Forces have developed an effective performance measurement system at the tactical level that provides an adequate and realistic assessment of progress and operational readiness to fulfill approved Defence Tasks.

[37] Land Forces Command OPLAN 2011/12 v1.
[38] Land Force Battle Task Standards Volume 2 DAT OTS BTS & Validation, 15 January 2007.

Collective Training Summary

The Land Forces have an effective collective training system in place that has provided the necessary number of trained sub-units, units and formation HQ to meet the expected outcomes noted in the PAA though not without the difficulties noted above, particularly in issues related to vehicles and personnel. This contribution has been delivered to the operational employers within the required timelines (i.e., to meet successive rotation schedules for Afghanistan, as well as for the Vancouver Olympics and G8/G20 Summits) and in the required numbers for operational employment. Their contributions have been judged as being effective by the force employers.

Land Force Operational Readiness and Sustainment

General. The report to this point has focused on both Land Force individual training and collective training under the Managed Readiness Program to achieve the required readiness state for the approved operational Defence Tasks. However, individual and collective training are but two of a number of essential elements that underpin the development and maintenance of operational capability and readiness. Others, which have been reflected in previous discussions, include personnel strength, serviceable equipment holdings, service support and command and control components. This portion of the report links Land Force training to the higher-level issues surrounding CF Land Force readiness and sustainment.

Readiness and Sustainability Defined

> "Readiness refers to the Canadian Forces' flexibility and preparedness to deploy in response to Government direction. It encompasses the resources needed to maintain equipment, conduct training, and prepare units for operations. Over the last 15 years, the military have been forced to economize in this area. Fewer resources for training and spare parts, coupled with an increasing operational tempo and ageing equipment eroded the Canadian Forces' preparedness to undertake operations on short notice. Until recently, the resources allocated for the National Procurement budget, which covers fuel, ammunition, spare parts and maintenance, covered only 70 percent of demand, significantly impeding the Forces' ability to train and maintain high-readiness levels."[39]

This CFDS definition captures only the "front end" elements of readiness, including operational capability and response time, but fails to reflect the essential element of sustainment. While the Land Forces must have the ability to undertake assigned Defence Tasks when and where required, they must also have the capacity to sustain their operational capability for as long as required—in some cases indefinitely.

[39] CFDS, May 2008, page 18.

Sustainment is the capacity of a military force to maintain its operational capability for the duration required to achieve its tasks. Sustainment consists of the continued supply of consumables, maintenance and replacement of combat and non-combat attrition of equipment, military civil engineering services, health services support, and personnel support services, including replacements.[40]

Several of the more complex Defence Tasks have an annotated "timeline," or direction to be ready within a given timeline, and to be capable of sustaining the unit or formation for a given duration of time. Table 4 is an example of a Land Force task:[41]

Defence Task	Tasks	Timelines
DT1-2-1-2288 NATO Land Capability, OPI: CLS Description • Provide the capability to conduct mid-level NATO joint and combined operations throughout the NATO area of interest. • In accordance with Canada's NATO commitments, provide an Infantry Battalion Group to be sustained indefinitely in low-level operations and be deployable anywhere in the world.	Readiness Level • The infantry battalion group based in Canada assigned to NATO Reaction Forces to be available for operations.	Not applicable Within | | | | | | |
	Sustainability Level • Low-level operations.	Up to indefinitely

Table 4. Land Force Task. This is a sample Defence Task for CLS illustrating required contributions and timelines.

There are also "standing" tasks for which the Land Forces must prepare. These include the LFCA 113 personnel commitment to the DART task, humanitarian assistance operations, and a requirement for each LFA to provide an Immediate Response Unit of 350 personnel maintained at several hours' notice to move for domestic tasks.

Readiness and Sustainment

Sustainment and sustainability (i.e., the processes and methods that contribute to sustainment) to meet current Defence Tasks are at a crossroads. The Land Forces have reached a point where the end of life cycles of vehicles and equipment are being reached much faster than had been anticipated due to operational wear and tear and battle damage. Spare parts are in short supply outside of the main theatre of operations. This is especially true for specialized vehicle fleets, equipment and their associated spare parts that are procured in small numbers to meet urgent operational needs, such that their availability for sustainment and training purposes may be limited. The importance of addressing this issue is well recognized and is one of the key elements in the post-2011 Army Reorientation program.[42]

The increased maintenance and supply burden over the last several years on an already short-staffed system has been challenging. There are presently not enough trained technicians in some of the key occupational classifications in the Maintenance

[40] Defence Plan Online, 26 April 2010.
[41] Departmental Performance Report 2010.
[42] CLS Letter to Chief of the Defence Staff (CDS), 3000-0 (DLS), *Army Reorientation*, 21 February 2010.

Companies of the field force formations, let alone in the combat arms and combat support arms unit echelons, available to satisfy the increased maintenance burden caused by both operations and training. In many cases pointed out by interviewees for this evaluation, the priority for spare parts has naturally been to Afghanistan, but both the pooled training fleet of vehicles and equipment, and the domestic fleets have had usage rates in the past four years that far exceed the original Life Cycle Materiel Management planning estimates. This increased use has only exacerbated an already challenging spare parts issue.

With the reduction in the utility of the various strategic training fleets, there has been a progressively diminishing domestic capability to train for the RTHR, and to also be prepared for other near concurrent assigned Defence Tasks such as the Vancouver Olympics, G8/G20 and the Haiti DART/NEO/Humanitarian assistance mission. This has strained the Land Forces support systems beyond what could be reasonably expected.

Challenging operational deployment and concurrent tasking scenarios have come to pass, and while all assigned tasks were completed successfully, it has come at a cost that will continue to affect both readiness and sustainment in the near future. This has been recognized by CLS who noted that the Army will require time to reconstitute itself, and [redacted][43]

Four years of training for and delivering a single infantry heavy BG every six months, in addition to a higher-level HQ plus support troops to an international deployment, has significantly challenged the Land Forces.

Finding

The Land Forces have the necessary systems in place, and have achieved the directed readiness levels required to meet their assigned operational Defence Tasks. The Land Forces will, however, be challenged to provide an adequate sustainment capability unless resources are either redirected or newly acquired.

Value for Money

The Government's 2009 Policy on Evaluation[44] refers to what in the past were "effectiveness evaluations" as "value-for-money evaluations," and requires that departments and agencies provide clear and valid conclusions about the relevance and performance of programs and activities. The Policy defines "relevance" in terms of continued need for the program, alignment with Government priorities, and alignment with federal roles and responsibilities, while "performance" includes achievement of expected outcomes, and demonstration of efficiency and economy.

As defined through the CFDS and strategic Defence documents, land training and readiness to conduct operations continue to be relevant to federal roles, responsibilities and priorities. As well, "performance" has been successfully demonstrated in terms of **effectiveness** at generating required Land Forces for CF domestic, expeditionary and

[43] Ibid.
[44] Government of Canada Policy on Evaluation, 1 April 2009.

continental operations though not without challenges. However, the issue of demonstrating **efficiency** and **economy**, the other two elements of performance as defined in the Policy, is more complex and difficult to assess. Efficiency and economy must be balanced against the need for Land Force agility and resilience to prosecute the mission while minimizing loss of life. This requirement often comes at the expense of possessing extra capacity and redundancy of critical capabilities which will enable risk mitigation.

For the purposes of this evaluation, value for money was assessed in terms of the extent to which field forces have been (or are) generated to meet PAA commitments, including the ability to sustain operations for lengthy periods if required to do so. In that regard this evaluation followed the approach taken by the UK's National Audit Office in their 2009 report on Support to High Intensity Operations,[45] which assessed value for money in terms of the effectiveness of support for armed forces in theatre. That report highlighted the challenge of ascribing steady-state civilian standards to military readiness and operations in the face of complicating factors such as "evolving threats" and the "distant locations and the harsh environments of Afghanistan."

As with the UK, evolving threats have been met by the CF Land Forces with measured responses involving new doctrine, tactics, equipment and training. That has complicated the need to balance desired effects with resources in the pursuit of operational effectiveness, a reality that will guide Land Force readiness and training in the future. Through appropriate levels of investment in land readiness and training, controlled through an effective governance framework, lives have been preserved, success has been achieved in full-spectrum operations, and allies and coalition partners trust Canadian Land Forces as highly skilled and professional across the spectrum of warfare.

Current Readiness and Sustainment Summary

To this point the evaluation has addressed and answered the five core evaluation issues, as follows:

- **Continued Need for Program.** Assessment of the extent to which Land Force readiness and training continue to address a demonstrable need and are responsive to the needs of Canadians.
    - The Land Force readiness and training programs and supporting activities continue to have a demonstrated need and relevance.

- **Alignment with Government Priorities.** Assessment of the linkages between Land Force readiness and training objectives and (i) federal government priorities, and (ii) departmental strategic outcomes.
    - Land Force readiness and training activities align with all relevant Government and DND/CF priorities.

[45] UK National Audit Office, Report by the Comptroller and Auditor General, Support to High Intensity Operations, 14 May 2009.

- **Alignment with Federal Roles and Responsibilities.** Assessment of the role and responsibilities for the federal government with respect to Land Force readiness and training.
  - In that the federal government maintains the responsibility for national security, the federal government therefore continues to have a role and responsibilities for Land Force readiness and training.
  - There is no duplication or overlap with other programs or services.

- **Achievement of Expected Outcomes.** Assessment of progress toward expected outcomes with reference to performance targets and program / activity reach and design, including the linkage and contribution of outputs to outcomes.
  - The Land Forces have demonstrated that there are appropriate governance and performance measurement frameworks in place for Land Force readiness and training.
  - All mission essential timelines and urgent operational responses demanded of and provided by the Land Forces have been achieved from 2006-2010.

- **Demonstration of Efficiency and Economy.** Assessment of resource utilization in relation to the production of outputs and progress toward expected outcomes.
  - The current land readiness construct as it relates to the delivery of both individual and collective training contributes effectively toward meeting assigned land readiness commitments.
  - Given the ongoing challenge of operational tempo and unforecasted operations with concurrent resource constraints across the Land Forces, the current land training construct is adequately designed, with appropriate training infrastructure, and can be sustained to conduct effective training to enable assigned commitments to be met, as outlined in the CFDS.
  - Increased use of technology, modeling and simulation with improved distributed learning has contributed to improved efficiency and economy in achieving Land Force training outcomes.

Land Force readiness commitments in support of the CFDS are being met. The performance of Land Force readiness and training activities has been demonstrated in terms of generating required Land Forces for CF domestic (e.g., 2010 Vancouver Olympics and G8/G20 Summits), expeditionary (e.g., Task Force Afghanistan) and continental (e.g., 2010 Haiti earthquake relief) operations. Efficiency and economy (value for money) have been effectively balanced against the need for agility and resilience to prosecute the mission while minimizing loss of life. This justifiable requirement may come at the expense of possessing extra capacity and redundancy of critical capabilities which will enable risk mitigation.

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> "The incremental resources we have received during the Afghan mission will be withdrawn commencing in FY 2011/12. We will not have the resources available to institutionalize every capability or activity for which we have had incremental mission funding. Reconstitution, therefore, requires us to examine the Army's resources in terms of training, equipment, people, and infrastructure to set the conditions for successful reorientation through a sustainable resource balance."
>
> Commander Land Forces Command
>
> (Land Forces Command OPLAN 2011/2012 v1)

General

Operational necessity and focused management efforts have contributed to the creation of an effective land training system that is producing trained individuals and units that meet the operational needs of force employers, both domestically and internationally. Deficiencies with Land Force training that were identified in the previous 2004 CRS evaluation of Vanguard Readiness have, with exceptions, received due attention, and CF Land Forces continue to demonstrate operational proficiency and professionalism at all ranks and levels of leadership.

This has not been without challenge, and despite the successes achieved to date, the Army has acknowledged institutional shortcomings that affect force generation and sustainment. These include the impact of the recent high operational tempo, a situation that has led to disparate opportunities for readiness training and the resulting experiential gaps among Army personnel. As well, overall shortages of experienced leaders have resulted in fewer Regular Force trainers available to force-generate, leading to a reliance on stop-gap programs such as TCEP and ITCB. These programs, although helping to meet the need, have developed a dependency on funding from temporary sources that are in essence being used to fund core CF capabilities necessary for success in future missions.

The two focusing questions posed in the US Army's December 2009 Capstone Concept[46] are equally relevant to the future of CF Land Forces:

- What is the Army's vision of future armed conflict and how should the Army conduct joint land operations that facilitate strategic objectives?
- What capabilities should the Army provide to joint force commanders to meet a broad range of national security threats on short notice, for indeterminate duration, and in response to unanticipated events?

With regard to answering these fundamental questions it is apparent that, given the current climate of financial restraint, future land readiness challenges will remain in terms of reconciling the divide between ambition and resources.

[46] US Army TRADOC PAM 525-3-0, The Army Capstone Concept – Operational Adaptability: Operating under Conditions of Uncertainty and Complexity in an Era of Persistent Conflict 2016 – 2028, 21 December 2009.

Strategic Direction Revisited

Army force generation requirements are derived from governmental and departmental strategy, and the six CFDS CF missions continue to provide the necessary focus to shape future Land Force operational planning. As noted in DND's Report on Plans and Priorities 2010-11,[47] as DND implements the CFDS and sets the conditions for success in domestic, continental and international operations, it "is ensuring CF members have the best equipment and support possible to ensure they are ready to perform critical activities in both training and operational roles." The 2010-2011 RPP also notes that "Defence is developing a multi-year, strategic-level CF readiness guidance."

Emanating from the CFDS are the four Land Force missions (PAA sub-activities) that will continue to provide the basis for more detailed Army force generation planning and execution. Readiness to conduct and sustain missions to achieve strategic effect must be horizontally and vertically integrated and aligned with strategic plans and priorities. This will continue to require trained soldiers, effective leaders, suitable vehicles and other equipment, combat supplies, doctrine appropriate to the task, as well as other key enablers.

CLS indicated in a letter to the CDS in February 2010 that an Army Reorientation program would be undertaken as part of an overall CF reconstitution program. The aim of the Army program is to reconstitute the Army to move from the current Joint Task Force Afghanistan single line of operation to an enhanced MRP along four principal Army lines of operation in support of the PAA-defined tasks.[48]

The Future Security Environment

Future military conflicts will involve adaptive, dispersed operations against adversaries that are themselves adaptive and innovative, and represent hybrid threats (or *"unconventional shocks"*[49]). As a result, the future requirement is largely unpredictable. As the NATO Multiple Futures Project (MFP) report[50] suggests:

> "(We) must not lose sight of the fact that, no matter how hard we try, the future is not foreseeable. More importantly, no matter how hard we prepare – we will be surprised."[51]

A key factor in guiding the army into the future is the anticipated global security environment, including potential threats and operating environments. Strategic analysts are unanimous that there will not be a return to a Cold War scenario, and are in general agreement about anticipated future shocks requiring a military response.

[47] Department of National Defence, Report on Plans and Priorities 2010-11, 25 March 2010.
[48] CLS Letter to CDS 3000-0 (DLS) Army Reorientation, 21 February 2010.
[49] Nathan Freier, Known Unknowns: Unconventional "Strategic Shocks" in Defense Strategy Development, US Army War College Strategic Studies Institute, November 2008.
[50] NATO Report, NATO Multiple Futures Project, April 2009.
[51] Ibid.

The NATO MFP notes important political, social and other strategic influences, including emerging patterns of globalization, rapid scientific and technological innovation, demographic change, shifting regional power balances and the growing prominence of non-state actors. The MFP further predicts that large-scale conventional confrontation is unlikely, and that future security challenges will mainly be "a consequence of destabilization and the absence of governance."

Adaptability and Partnership / Future Shocks and Full-Spectrum Operations

Given an uncertain future global security environment, what over-arching characteristics should govern Land Force readiness and training? As well as the need for responsiveness (i.e., speed of reaction), two considerations that will guide future readiness are **adaptability** (i.e., the ability to shape conditions and respond flexibly to changing threats and situations with appropriate and timely actions) and **partnership** (with coalition partners and allies, as well as all non-military agencies and organizations included in the Comprehensive Approach). The notion of "strategic agility" will become increasingly important whereby organizations must be prepared to seize unforeseen opportunities as they arise to achieve strategic goals.

Conceptual planning for future threats is shared by all of Canada's closest allies. Just as the US Army's Capstone Concept contemplates future requirements, likewise the Australian Chief of Army's "Design Rule 3"[52] for future Army development in support of adaptive campaigning states that:

> "The Army is to promote a learning culture and become a Learning Organisation. To support this, Army will apply a mission command philosophy, organisational structures, and training and education systems that empower soldiers and their commanders for complex, unpredictable tasks based on short, medium and long term learning loops and the ability to adapt."

To support the goal of being strategically relevant and tactically decisive, while mitigating the unpredictability of future conflict, the Army in 2007 issued guidance in the form of a force employment concept, titled Land Operations 2021.[53] It stated that the Land Forces of the future would be combat-capable and multi-purpose, and prepared to engage in operations across the full spectrum of conflict. To accomplish this, the Land Forces will require the ways and means to attain the readiness posture needed to achieve desired strategic effects.

[52] Australian Army, Adaptive Campaigning 09 – Army's Future Land Operating Concept, September 2009.
[53] Land Operations 2021: Adaptive Dispersed Operations – The Force Employment Concept for Canada's Army of Tomorrow, B-GL-310-001/AG-001, 2007.

Readiness, Complexity and Affordability

Future CF Land Force readiness may also be considered in terms of complex adaptive systems theory[54] as a "system" that must be inherently flexible, resilient, responsive, robust and agile, capable of taking the form required by the existing situation. The Australian Army defines a complex adaptive system as:

> "…an open system in constant interaction with its environment. Its capacity to adapt to environmental change emerges from the collective behaviour of all the parts in the system interacting locally in response to local conditions and incomplete information. Complex adaptive systems are proactive, innovative and learning systems that exhibit agility, flexibility and resilience."[55]

When dealing with complex systems, Paul Adams and James Kahan[56] of the RAND Corporation noted in 2007 the importance of effective decision support systems, such as modeling. However, their view at the time was that the level of future uncertainty was such that modeling and simulation were incapable of keeping pace with the myriad complex relationships and possibilities that arise in human and other complex adaptive systems. That situation has improved somewhat in the intervening years, but major challenges persist.

The fact remains that readiness is not entirely science, but must reflect other critical factors that are not necessarily fully controllable. As a 2005 UK National Audit Office report concluded:

> "Ultimately, perfect readiness—having sufficient, well-equipped, well-supplied people in the right place at the right time to deal with any given situation which, in all probability, will have been unforeseen—is not achievable or even desirable. The cost of keeping forces 'ready' for contingencies has to be balanced against the likelihood of such contingencies occurring and the warning and preparation time available to respond. The Department, therefore, plans on maintaining forces at a variety of 'peacetime' readiness states and to be able to reconfigure forces to respond to contingencies within specific readiness times."[57]

In other words it is the pace of change that is creating planning challenges. As US Army General Martin Dempsey stated, "Rather than trying to leap ahead decades into the future and design a force adequate for any task and for many years, we need to design a force that is adequate for the tasks we know we must accomplish and that can adapt much more quickly than in the past."[58] Thus, the readiness conundrum remains—just how much

[54] Grisogono, A.M., The State of the Art and the State of the Practice: The Implications of Complex Adaptive Systems Theory for C2, paper presented at the 2006 Command and Control Research and Technology Symposium (CCRTS), 6 May 2006.
[55] Australian Army, Adaptive Campaigning 09 – Army's Future Land Operating Concept, September 2009.
[56] Davis, Paul K. and Kahan, James P., RAND Corporation technical report, Theory and Methods for Supporting High Level Military Decision-Making, 2007.
[57] UK National Audit Office report, Assessing and Reporting Military Readiness, June 2005.
[58] US Army General Martin Dempsey, Commanding General TRADOC, in his keynote address to the Association of the Army Chapter Presidents Dinner, 4 October 2009.

readiness and training (and how "just in time") is acceptable and affordable at the same time? In the words of General Sir Richard Dannatt, the UK's former Chief of the General Staff, "In my view adequate quality in sufficient quantity is the principle that should guide us."[59]

Army Commander's Intent

The CFDS provides the strategic overlay and Defence priorities that guide land readiness. Building on that, DND's 2010-11 Report on Plans and Priorities notes a number of important force generation and sustainment planning considerations for the future. These include the continued need for combat-capable, multi-purpose Land Forces that are "effective across the spectrum of conflict, from peacekeeping and nation-building to war fighting...set in the context of a JIMP environment."[60] To ensure a common, coherent view within the Army of the way ahead, CLS's intent has been enunciated through a number of key publications such as the LFC Operating Plan 2011/12 v1 and The Army: Advancing with Purpose. They provide clear, comprehensive top-down direction that effectively bridges the strategic and operational levels.

Managed Readiness

In terms of achieving CLS's intent with respect to the field force, the framework for Army force generation and employment continues to be the Army Managed Readiness System[61] and its accompanying Plan. This system has proven to be effective in ensuring unity of effort for both managing the field force and meeting operational commitments, given the need in recent years to continually force-generate new rotations to meet deployment requirements.

The challenge following the 2011 drawdown from the main military effort in Afghanistan will be to balance the training and equipment requirements to maintain units and formations currently at high readiness but not deploying against the needs of units on the RTHR, as well as the remainder of the institutional army. Funding must be sufficient to support training and equipment requirements to maintain non-deploying units at high readiness without skill fade, while also catering to the needs of units that are now on the RTHR.

Finding

There is a need to ensure that the Army Managed Readiness System is sufficiently flexible and robust in terms of training capacity and equipment to meet the needs of the following:

- Units and formations that must be maintained at high readiness but may not be assigned to a mission;

[59] General Sir Richard Dannatt, former UK Chief of the General Staff, opening address to the Royal United Services Institute Land Warfare Conference, 23-25 June 2009.
[60] DND Report on Plans and Priorities 2010-11, page 29.
[61] DND/CLS Planning Guidance for Managed Readiness System, Annex A to 3350-1 (DLFR), 25 November 2005.

- Units and formations that are on the RTHR; and
- The balance of the institutional Army.

Land Forces Personnel Strength

For the Army to meet its readiness commitments it is essential that the right numbers of the right personnel with the right training and equipment be available, when and where required. From 2009 through 2010 the Army experienced an improvement in its personnel complement in gross terms due to successful recruitment and reduced attrition, such that some occupations (e.g., Infantryman[62]) by 2010 were over-strength and opportunity existed to transfer to occupations that were under-strength.

While concerted recruiting efforts and occupational transfer opportunities have improved the situation for a number of the Land occupations, some Regular Force occupations continue to require attention. In some cases supply (i.e., Trained Effective Strength, TES), has not kept pace with a demand (i.e., Preferred Manning Level (PML) that has been increasing due to operations. [redacted] strength and is projected to be at only [redacted] [63] Likewise, the [redacted] with gradual improvement anticipated in the years that follow.

As a result of shortages, some personnel must deploy more frequently or participate in incremental taskings in Canada at a pace that is inconsistent with stated policy. In that these occupations provide capabilities that are essential to land readiness, renewed efforts must be undertaken to recruit suitable candidates and fill the vacant positions. Keeping in mind demographic trends and future increased competition within Canada for a shrinking pool of human resources, renewed efforts must be made to retain those in distressed occupations and to attract new recruits into them.

Finding

Continued efforts will be required to address personnel shortages in those Land occupations that are distressed and deemed to be essential to future campaign winning.

Land Reserves

Recent operations, both domestic and expeditionary, have relied significantly on Reserve augmentees and specialists. Reservists preparing to serve in Afghanistan receive the same training on the RTHR as the Regular Force soldiers with whom they deploy. However, DND funding pressures in early 2010 led to a need for budgetary "adjustments," including the decision to severely reduce or even curtail "non-essential" Reserve Class A training for the remainder of FY 2009/2010 in order to free up funds for reallocation to other priority needs within the Land Force.

[62] CANFORGEN 060/10, CMP 026/10 051349Z MAR 10, Announcement of the Special Voluntary Occupation Transfer Program (SVOTP) for 00010 INFMN.
[63] CMP Report Occupation Status Five Year Projection (FY 2010/11 to 2014/15), January 2011.

Reserve Class A training was subsequently given a $5-million funding injection, and more stable funding was reinstated for FY 2010/2011, thereby enabling the Reserves to return to a normal training rhythm. Reconstitution of the Army post-Afghanistan, and in an era of renewed financial belt-tightening, may put further stress on both Regular and Reserve training.

As an example of a different approach to training, the Australian Army, through its Hardened Networked Army initiative,[64] seeks to increase the Army's depth and sustainability through a number of elements, including plans to re-focus the Army Reserve and provide approximately 2,800 high-readiness Reservists to support the Army's front-line deployable units. There will be three categories of service within the Hardened Networked Army Reserve, including the High Readiness Reserve (capable of providing deployable reinforcements), the Active Reserve (providing domestic security and "strategic depth") and the Standby Reserve (akin to the CF's Supplementary Ready Reserve). While all aspects of the Australian model may or may not be appropriate for Canada, lessons are no doubt available for consideration.

Finding

Army Reorientation will need to articulate a longer-term vision for the Reserves that builds on the operational expertise developed in recent years and which will allow increased operational focus and inclusion into the overall redesigned Land Forces training process.

Post-2011 Army Individual and Collective Training

Training, both individual and collective, is essential to land readiness in terms of developing proficiency and saving lives. Effective training ensures the intellectual, physical and moral preparation of personnel by developing their knowledge, their competence at required skills and their values. In the context of future global uncertainty and internal funding pressures there is a need to ensure that land training is relevant, effective and yet affordable.

Training Management

The CDA is, and will remain, the functional authority for the CFITES. In turn, LFDTS, as the focal point for Army training management, doctrine, lessons learned and related elements, adapts CFITES policy for Army purposes. As the Army Training Authority, the Commander LFDTS's direction and guidance to the Army on training issues (e.g., through the LFDTS OPLAN,[65] which includes the ATA Campaign Plan Framework), LFDTS HQ staff's active involvement in training matters, as well as the deliberations of the Army Training Council all ensure an appropriate level of oversight, communication and coherence in the approach to land training.

[64] Lieutenant-General K.J. Gillespie, Australian Chief of Army, The Australian Army, address to the United Service Institution of New South Wales, 22 August 2008.
[65] LFDTS FY 2009/10 Operation Plan (Final – Version 3), 15 May 2009.

One organizational anomaly has Director Army Doctrine reporting to the Commander LFDTS in Kingston, while Director Land Concepts and Designs reports to Director General Land Capability Development, who resides in Ottawa. Neither of these Directors considers this to have been an impediment to the synergistic relationship between concept development and doctrine development, given that both directorates are co-located in Kingston and their staffs confer on a daily basis.

While a detailed organizational analysis of LFDTS was beyond the scope of this evaluation, it is appropriate that LFDTS, as with all learning organizations, be periodically reviewed and rationalized. This would be consistent with Commander Land Force Command's direction to "Conduct a full review of establishments and programs to ensure that resources are balanced across the right priorities."[66] It is also in keeping with two of Commander LFC's four major themes for the future as the Afghanistan mission draws down. These include: (1) reorientation of the Army within the broader CF reconstitution, and (2) adjustment of the Army's training, equipment, people and infrastructure to achieve a sustainable resource balance.[67]

Finding

Given the need to reorient the Army and balance resources for the future in concert with the drawdown from the Afghanistan mission, there is a requirement to rationalize the LFDTS organization, governance structures and resourcing.

Recommendation

7. As part of Army Reorientation activities post-2011, review and rationalize the organizational structure and resourcing of LFDTS HQ and schools, including CoEs, to ensure that land training management and execution achieve the appropriate balance between effectiveness and efficiency.
OPI: CLS

Individual Training

With the announced drawdown of CF military combat operations in Afghanistan in 2011 the focus in land training will shift from the RTHR for the war to a return to readiness for a war, while still adhering to the Army Managed Readiness System. Just as individual land training at the LFDTS schools and at operational units on the RTHR in recent years reflected the needs of and lessons learned emanating from Afghanistan, the implications of becoming agile and adaptive in an uncertain world will no doubt have a pronounced effect on training. As well, the expectations and learning styles of soldiers who have increasingly been exposed to technology in their lives adds both challenge and opportunity in terms of training delivery.

[66] Land Forces Command Strategic Assessment / Strategic Operation and Resource Plan FY 2009/2010, Table 1, 3 November 2008.
[67] Land Force Command Operating Plan FY 2011/2012 v1, page 1-1/8.

Indications are that re-balancing of the Army will result in a renewed focus on institutional foundation training (i.e., developing core occupational skills) relevant to operations, with an emphasis on the most probable scenarios (e.g., a continued emphasis on COIN and peace support operations in complex environments as suggested by the developing global security environment). This approach is consistent with that of the US, whereby "US ground forces will remain capable of full-spectrum operations, with continued focus on capabilities to conduct effective and sustained counterinsurgency, stability, and counterterrorist operations alone and in concert with partners."[68]

By taking a sound risk-management approach to individual training content the Army should be best positioned to prepare for the future. However, there are issues surrounding critical supporting enablers or factors that must be addressed to better harmonize training requirements and available capacity, and to optimize training delivery and effect.

Training Capacity

Matching the Army's required individual training capacity to meet the demand in recent years was achieved largely through temporary resourcing programs such as TCEP and ITCB. Without those programs, the training workload for courses that are delivered largely in a traditional way, such as in a classroom or on a range, will once again fall to permanent school staff augmented with incremental staff from the field force to meet surge requirements. It is the incremental tasking issue in particular that undermines morale among those who must be away from home for extended periods, and ultimately promotes attrition, as has been the case in the past.

Training Content and Standards

Army reconstitution post-2011 will present an opportunity to rationalize the content of individual training courses at CTC and other land schools to ensure that, to the degree possible, the "right" material is being taught at the right time in a soldier's career, and to an appropriate standard. Considerable additional content has been added incrementally during the last few years to meet emerging needs identified during operations as it relates to new equipment, doctrine or TTPs, often without replacing existing content, and sometimes without clear direction. For example, what is the resident level of expertise required and demand for training in fragile skill sets such as jungle and mountain warfare, or Arctic operations at CFLAWC, or road-building at CFSEME?

It is noteworthy that, regarding the US Army, the current emphasis on COIN training and employment has led to questions about the maintenance of proficiency in the skills needed for "conventional" major combat operations (MCO). Research conducted in 2008 at the RAND Corporation's Arroyo Center[69] concluded that some atrophy is occurring in manoeuvre and other skills associated with MCO, especially battle staff skills. The study's three recommendations included the need to prevent long-term atrophy, the need for the US Army Training and Doctrine Command (not operational units) to take the lead in maintaining MCO capabilities in leaders and soldiers, and the need for the US Army to continually monitor specific, critical MCO skills.

[68] US Department of Defense, Quadrennial Defense Review Report, February 2010.
[69] Study by Bryan W. Hallmark and Henry A. Leonard, research summarized in RAND Corporation Arroyo Center report AR-7134-A, Annual Report 2008, 2009.

This issue of what to teach and to what level of detail is further complicated by the lack of a designated managing authority at the strategic level in a number of areas. In the absence of OPIs responsible for campaign-winning functions such as Influence Activities/Information Operations and the Comprehensive Approach, it is left largely to environmental chiefs of staff to individually establish training needs and levels of investment. As an example, the Army has appointed an Influence Activity Advisor.[70] It is imperative that all such functions have an assigned managing authority to guide the efforts of force generators.

Findings

- Training curricula would benefit from a comprehensive, coordinated review and appropriate direction to guide training content and investment.
- There is a need to rationalize the "ownership" of what have been called "campaign-winning functions."

Recommendations

8. In collaboration with force generators, develop concepts and doctrine for campaign winning enablers (e.g., Influence Activities and the Comprehensive Approach) with commensurate authorities and responsibilities.
OPI: VCDS
OCI: CMS, CLS, CAS

9. Ensure that Land Force foundational training reflects an appropriate balance between preparing for stability and COIN operations and for developing skills deemed essential in other aspects of full-spectrum operations, including "conventional" major combat operations.
OPI: CLS

10. Conduct a comprehensive, coordinated review of Individual Training and IBTS post-2011, and provide the necessary guidance for planning, including the appropriate level of investment.
OPI: CLS

Training Methodologies

The CF requires a training and education system that is agile, effective and affordable, and that generates operationally employable personnel and units faster. To do so, Land Force schools have embraced to varying degrees the introduction of modern training methodologies that increasingly utilize technology and also meet the training expectations (including the learning style and values) of Generation Y[71] personnel. In notable cases this has led to uncoordinated bottom-up initiatives that seek to exploit available or emerging learning technologies.

[70] CANFORGEN 135/10 CLS 033/10 221300Z JUL 10.
[71] "Generation Y is a label attributed to persons born during the 1980s and early 1990s. Because children born during this time period have had constant access to technology in their youth they have required employers to update their hiring strategy and training in order to incorporate updated forms of technology." (www.BusinessDictionary.com)

As this trend gains momentum, individual training increasingly reflects the benefits of information communication technologies that enable the development of shared skills and expertise via e-Learning and virtual environments, including Distributed Learning.[72] Distributed Learning has the demonstrated benefits of flexibility and reducing residential training time away from unit and family, thereby increasing opportunities for career development at home and on deployment.

As an example of how others are embracing innovative learning technologies, the British Army is one of the first organizations to develop an application for the new Apple iPad. As noted in the British Army's on-line newsletter of 26 May 2010,

> "Currently in the testing stage, the Fire Control Orders application will be used by soldiers at the Royal School of Artillery in Larkhill, Wiltshire, replacing more conventional training methods. Using interactive individual and multi-user exercises, the iPad application aims to provide a more engaging—and therefore more effective—training experience.
>
> Before and after the classroom-based training, the application will be available for practice via the MOD's Defence Learning Portal, a computer-based resource with access points at almost every military establishment. Instructors will then be able to focus their time on correcting errors in exercises and dealing with specific training requirements.
>
> The learning technologies team within the Army's Directorate of Training worked closely with the Royal School of Artillery in developing this application. This is the first of a number of new applications developed by the team, which is tasked with improving the delivery of training through the use of learning technologies. The team is also working with the Army Aviation Centre to provide vehicle recognition training for Army pilots, using a 3D recognition application on the Apple iTouch. The application will be incorporated into the helicopter pilots' course and evaluated for wider exploitation."

Efficiency in training is also sought through increased reliance on simulation (virtual, live and constructive[73]) where appropriate, and the term "synthetic environment" has entered the military lexicon. Also, capital equipment projects typically include independent

[72] **Distributed Learning.** The delivery of standardized training, education or professional development using multiple media and technologies when and where it is needed. It may involve learner-instructor interaction in both real time (synchronous) and non-real time (asynchronous). It may involve self-paced asynchronous learner instruction without benefit of access to an instructor. It does not necessarily involve a physical distance between the learner and instructor or need occur outside the confines of the resident training establishment or campus. The dispatch of instructors from a training establishment to a unit or another location to conduct training, or the hiring of qualified instructors in other locations to conduct the training on behalf of a training establishment fall within the realm of Distributed Learning. (Defence Learning Network—Glossary of Terms, 27 June 2008)

[73] From US Department of Defense 5000.59-M, Live Simulation: A simulation involving real people operating real systems. **Virtual Simulation:** A simulation involving real people operating simulated systems. Virtual simulations inject human-in-the-loop in a central role by exercising motor control skills (e.g., flying an airplane), decision skills (e.g., committing fire control resources to action), or communication skills (e.g., as members of a C4I team). **Constructive Model or Simulation:** Models and simulations that involve simulated people operating simulated systems. Real people stimulate (make inputs) to such simulations, but are not involved in determining the outcomes.

training suites. The Army Learning Support Centre at CTC provides a focal point for Army simulation technology, but it lacks sufficient robustness as currently constituted. The conclusion to be drawn is that training methodologies are evolving at a rapid pace, such that keeping up entails significant cost in terms of level of effort, the technologies involved, as well as the specialized skills required by those whose role is to be either "smart buyers," managers, instructional staff, software specialists or others.

While technology-based training methodologies offer an important alternative to traditional training methodologies to teach theory and procedures, they have recognized limitations and cannot replace all hands-on military skills or leadership training. Eventually, there is a need to demonstrate, practise and maintain skills in a more realistic environment such as on the range or in the training area. A 2009 RAND Arroyo Center study[74] on US Army training noted that distributed learning is best reserved for procedures

- that can be practised simply or with the addition of simple job aids (e.g., completing forms, performing calculations);
- that are not subject to rapid decay or are easily refreshed;
- as a supplement for residential training (e.g., assigned as "homework");
- where "exported" training (i.e., institutional or continuation training executed at or near a unit location) can be supported by a high level of instructor-student interaction; and
- Where the purpose of the instruction is to provide information where practice is not important (e.g., doctrinal and technique updates).

While the Land Force's "Army Training System 2018" and other top-down programs provide higher-level direction and guidance, it will be important to ensure that future individual training is not designed in isolation and reflects the needs of operating effectively in a JIMP environment. To ensure unity of effort in future training and education approaches across the CF, CDA,[75] through the Advanced Distributed Learning Partnership Lab, has been tasked to coordinate the modernization of CF IT&E. The Lab provides a collaborative environment for DND training organizations to share resources and experiences in implementing e-Learning solutions. This initiative is still in its relative infancy, but will incorporate modern learning strategies, while making effective use of emerging technologies. The future will thus require an approach that is both innovative and collaborative among all partners, particularly between LFDTS and the CDA IT&E Modernization Team.

Findings

- Efforts to introduce new learning technologies and methodologies for land training have generally been bottom-up, uncoordinated individual initiatives at the tactical level. A CF-wide strategy that supports unity of effort in that regard has been lacking.

[74] Susan G. Straus *et al*, RAND Corporation monograph MG-865-A, Improving the Army's Assessment of Interactive Multimedia Instruction Courseware, 2009.
[75] Colonel Larry Aitken, CDA Director Training and Education, briefing deck, Modernizing CF Individual Training and Education, 2008.

- Determination has not yet been made on what particular skills can be enhanced or improved through new teaching and learning methodologies, and what skills must still be taught in residency courses.

Recommendation

11. Ensure that land individual training strategies are effective, coordinated and evaluated, and that methodologies selected exploit modern learning theory and technologies to provide necessary training efficiently, while best accommodating the learning styles of trainees.
OPI: CLS

Collective Training

Realistic, timely combined arms and joint service training in accordance with Land Force doctrine is crucial to both increase and maintain the collective proficiency of units. Given the critical importance of collective training, especially major confirmation exercises such as Exercise MAPLE GUARDIAN, it will be imperative during Army re-balancing that collective training is not unduly curtailed in the name of economy. The intent of collective training is to develop collective capability to meet assigned commitments, and requires continued investment, not just for those units on the RTHR but for all Regular and Reserve units and formations.

In that regard, the current lack of higher-level collective training for units and formations not preparing to deploy to Afghanistan is a recognized issue. The solution, in terms of maintaining an effective level of collective training, is seeking innovative approaches that optimize the use of available funding. The LFDTS strategy includes a number of supporting initiatives, including:

- Shortening the RTHR;
- Exploring the potential of exporting collective training (e.g., making more effective use of training areas at Valcartier and Petawawa);
- Exploiting joint training opportunities;
- Investigating collaborative training with the UK and other coalition forces training at the British Army Training Unit Suffield; and
- Developing a vision and requirements for CMTC future operational capabilities.

Finding

Many LFDTS initiatives noted during this evaluation have the potential to enhance collective training and value for money within a constrained Defence budget.

Equipment

The availability of appropriate equipment in adequate quantities when and where required is critical for land training and readiness. As noted in the 2009-2010 Land Forces Command Strategic Assessment[76] "The Army continues to face a number of

[76] Land Forces Command Strategic Assessment / Strategic Operation and Resource Plan FY 2009/2010, 3 November 2008.

challenges in force generating personnel, materiel, vehicles and equipment for domestic and international operations and sustaining personnel, materiel, vehicles and equipment for the institutional army." This situation has directly impacted units on the RTHR, whereby the lack of timely availability of training vehicles and critical items of equipment (including some specialized tools) has required a flexible response on their part. Reliance on the centrally controlled training fleets and the Managed Readiness Training Fleet of vehicles, while a reasonable concept, has created workload and scheduling challenges that became increasingly untenable over time. Conducting meaningful training has been even more problematic for those units that were not on the RTHR.

With the attrition of many land vehicles and other equipment currently in Afghanistan through either battle damage or wear, the challenge for future Army training and sustainment will no doubt be exacerbated. Future Army reconstitution must include repairing and/or procuring sufficient quantities of vehicles and equipment to support both operational and training requirements. This is in line with a recent Office of the Auditor General recommendation that "When National Defence plans urgent acquisitions, it should rigorously assess training requirements to ensure that there are a sufficient number of vehicles to meet training needs without reducing the number dedicated for operations."[77]

Recommendation

12. Ensure that post-2011 Army Reorientation activities are adequately funded and resourced to provide sufficient quantities of appropriate combat vehicles and equipment to meet operational, sustainment and training needs. This includes ensuring that equipment acquisition projects include sufficient training assets and logistics and operational stocks to meet identified needs.
OPI: CLS

Infrastructure

The fifth pillar in the Army's Strategic Framework is infrastructure. An evaluation of Army infrastructure in general is beyond the scope of this report. However, schools and training centres that deliver individual and collective training have been either recapitalized in recent years with new buildings and equipment (e.g., at CTC and CMTC) or are planned to be (e.g., CFLAWC). As a result, training infrastructure has a positive influence on the delivery and output of land training. Ranges and training areas also reflect to a greater extent than in the past the application of modern simulation and other training technologies (e.g., weapons effects simulators).

A current infrastructure gap relates to the establishment of the CF Arctic Training Centre[78] in Resolute Bay, announced by the Government in August 2007 as part of its Northern Strategy. In that the first CFDS priority is to be prepared to "Conduct daily domestic and continental operations, including in the Arctic and through NORAD," this initiative is intended to provide a multi-use year-round facility capable of supporting winter warfare and arctic training, as well as Army sovereignty operations.

[77] 2009 Fall Report of the Auditor General of Canada, Chapter 5, 3 November 2009.
[78] DND Canada Command Backgrounder BG #09.002a, 17 August 2009.

Finding

Given the growing prominence of Arctic issues, planning and resourcing to meet associated Army training and equipment requirements for the Arctic should keep pace in order to set the conditions for future success.

Sustainment

Satisfying a surge requirement such as a domestic emergency or an international first rotation poses one kind of challenge. Providing the required capabilities (trained personnel, materiel, lift capability, etc.) for prolonged operational deployments is another complex challenge that can involve a multitude of parties inside and outside DND (e.g., the defence industrial base).

The importance of being capable of sustaining an operation for an extended period has been noted by Canada's allies. For example, as noted in the 2009 Australian Defence White Paper,[79]

> "The ability to continue to conduct directed tasks and operations over time is a consequence of having enough military personnel to replace or rotate deployed troops during a prolonged operation, the serviceability of major platforms and other equipment, the quantities of available supplies and replacement items, and the ability of critical functions such as sea and air lift to be used at elevated or prolonged rates of effort. Sustainability is also influenced by the capacity of industry to provide contracted support services, maintain, repair and replace equipment, generate supplies, provide specialist skills, and contribute to reconstitution once the mission is complete."

An emphasis on sustainment is also clear in the US Army's modernization goal for 2010 to:

> "Build a versatile mix of tailorable and networked organizations operating on a rotational cycle to provide a **sustained** flow of trained, equipped and ready forces for full spectrum operations and to hedge against unexpected contingencies—at a tempo that is predictable and **sustainable** for our All-Volunteer Force."[80]

The need to plan for sustainment and to engage all contributing stakeholders is well recognized by the Land Force. Setting the conditions for success will necessitate managing operational sustainment risk and developing workable plans that harmonize requirements and resources.

Army Reorientation 2012 Summary

In recent years, the Army has taken significant steps along the path to transformation from its former Cold War posture to be ready across the full spectrum of conflict, from peacekeeping and nation-building to war fighting. Strategic and operational direction

[79] Government of Australia, Defence White Paper 2009, Defending Australia in the Asia Pacific Century: Force 2030, 2 May 2009.
[80] 2010 US Army Modernization Strategy, 23 April 2010.

indicates that future readiness requirements will be dictated by uncertainty in terms of global security, and the need to be prepared to respond with agility and resilience in a JIMP environment. This will continue to have a profound influence on land readiness requirements, including doctrine, personnel, training (both individual and collective) and equipment, while maintaining the capacity to sustain prolonged operational deployments. In that regard, cost attribution for land readiness in FY 2010/2011 is $4.05 billion,[81] or 18.6 percent of the total Defence budget.

In more specific terms, the Government's CFDS continues to provide the strategic direction and underpinning for land readiness, including training. As noted in the CFDS, "Readiness refers to the Canadian Forces' flexibility and preparedness to deploy in response to Government direction. It encompasses the resources needed to maintain equipment, conduct training and prepare units for operations."[82] It is through its investments in readiness that the field force has acquitted itself so admirably in recent years in meeting its CFDS commitments, both domestically and internationally.

Emerging campaign-winning structures and enablers such as Provincial Reconstruction Teams, Operational Mentor and Liaison Teams, Counter Improvised Explosive Device and Influence Activities do not exist as core capabilities within the Army's force generation base and therefore must be generated on an *ad hoc* basis. There is a need to designate strategic-level OPIs for these and other such capabilities for planning and execution coherence and efficiency.

Rather than reducing the quantity or quality of training for the institutional Army as an economy measure, this report reinforces land staff observations that opportunities exist to increase both the efficiency and effectiveness of land training management and delivery. These measures, such as rationalization of training requirements to meet the needs of post-2011 Army Reorientation, and optimized utilization of e-Learning and other aspects of Alternative Training Delivery, offer ways to deliver training efficiently, without degrading quality, while meeting the needs of trainees.

[81] DND Report on Plans and Priorities 2010-11, 25 March 2010.
[82] CFDS, June 2008, page 18.

Annex A—Management Action Plan

Current Land Force Training and Readiness

CRS Recommendation

1. Identify specific actions to mitigate instructor shortfall issues at the principal institutional training units in light of the eventual cancellation of the temporary ITCB program and TCEP post-Op ATTENTION (the new CF training mission in Afghanistan). This will include actions to be taken to confirm future instructor suitability if contractors or Reserve Force members are to be employed.

Management Action

Agreed. The Land Staff has confirmed that the funding line for TCEP and ITCB instructors will not be renewed after FY 2014/15 when Op ATTENTION has ended. The problem of instructor shortfalls will be addressed by the following actions:

- CLS Force 2013 Planning Guidance indicates that as the Afghanistan mission closes out there will be a reinvestment of Regular Force person years into the institutional Army. Starting in APS 11 additional personnel (i.e., over and above normal annual moves) will be posted to CTC and other training establishments to fill positions formerly filled by ITCB personnel.

- The ATA intends to reallocate funds within his envelope to fund some of the Primary Reserve Class B positions at CTC formerly funded under ITCB.

- The field force support to Army individual training courses will be rationalized and synchronized where possible in order maximize support capacities. The G3 Conferences and Army task conferences (three times per year) offer suitable venues for coordinating field force support to individual training. Based on the augmentee instructor requirements of LFDTS, the Army will synchronize with the major activities of the Managed Readiness Plan at the Combined Army Conferences and task augmentee instructors through detailed coordination at the Army task conferences. This is in anticipation of lower tempo in the coming years as we transition out of the mission in Afghanistan, which would allow field force units to provide augmentee instructors that are currently being backfilled by Reservists and contractors through ITCB and TCEP.

- Exporting of individual training courses to units and / or formations is being considered in order to reduce the demand for al1 augmentee instructors at training establishments. The benefits of doing so, in terms of reducing time away from garrison, are desirable even though it may sometimes be more costly in resources and less efficient.

OPI: CLS
Target Date: APS 2011

Annex A

CRS Recommendation

2. Establish a plan to conduct 100-percent validation of Land Force courses by the end of 2011, given the acknowledged importance of validation in the Land Force's "systems approach" to training.

Management Action

Agreed. The newly published B-GL-300-008/FP-001, Training for Land Operations indicates that the Army will validate both Collective Training (CT) and Individual Training (IT) as per the Land Force Systems Approach to Training (LFSAT). Although reference to CT validation is not included in the CRS report, it should be noted that in 2010 DAT stood up a validation cell (one Captain) to implement CT validation starting in May 2010. The manning for this cell will increase by one TDO Captain/Major in APS 2011.

For Individual Training, in its Validation Plan for 2010-2011, DAT has targeted 11 IT courses for validation. These validations are at various stages of completion. For FYs 2011-2015, an additional 56 courses are scheduled for validation. Personnel resources dedicated to IT validation will remain at one Lieutenant-Commander and one Warrant Officer for the FYll/12. DAT will continue to conduct IT validation as per the guidance provides by the Manual of IT &E, Volume 8 -Validation of Instructional Programmes, a proven systematic approach to validation. In addition, DAT will leverage data gathered by the Army Lessons Learned Centre (ALLC) from theatre and high-readiness exercises for both collective training and individual training validation purposes.

OPI: CLS
Target Date: APS 2011

CRS Recommendation

3. Review all current CoE responsibilities to ensure adequate resources have been assigned to achieve training and operational expectations. In those cases where harmonizing CoE responsibilities and resources is not feasible, consider removing the additional CoE burden from those affected.

Management Action

Agreed. All current CoE responsibilities are assigned either to National Schools or, in some instances, to Army Directorates along functional lines. The effective oversight of CoE responsibilities is challenged by shortfalls in manning at the National Schools. The CLS has recently made clear his intention to reinvest into the Institutional Army starting in the summer of 2011, which will result in steady improvement of the National Schools' abilities to fulfill their CoE responsibilities in terms of training and operational excellence. Greater emphasis will be placed on posting soldiers with recent operational experience to the National Schools, where they can readily put to use this experience in the execution of CoE responsibilities. As capabilities are acquired and divested, CoE

responsibilities will be adjusted accordingly. The Army is well aware of the areas of concern regarding CoE responsibilities and tasks, and is taking tangible steps to ensure adequate resources, in this case the right people with the right experience, are assigned.

With current manning a balance needs to be struck between Field Force and Institutional Force (including CoE personnel).

OPI: CLS
Target Date: 2011

CRS Recommendation

4. Develop employment concepts as the foundation for all courses or areas of expertise that are determined to be operationally essential and that link the capabilities to a government priority or PAA outcome. In the interest of efficiency and cost effectiveness, eliminate any training as not supportable by current or proposed concept of operation or doctrine.

Management Action

Agreed. In all of the examples mentioned (parachute training; jungle, mountain and desert warfare training) the Army has existing doctrine covering the unique requirements of these types of operation. What is missing is an employment concept that links the capabilities to a government priority or PAA outcome.

Training in unique environments (e.g., jungle, mountain and desert operations) is conducted to establish minimum residual skill levels within the CF in case a requirement arises where they are needed. The responsibility to maintain this expertise resides within the infantry battalions and the instructor cadre at CFLAWC (CANSOFCOM also maintains expertise in mountain operations). The recent high operational tempo has resulted in a reduction in this lower-priority training, but provided that a core of trained an instructor is maintained it will be possible to re-energize these skill sets post-2011.

Moreover, it appears likely that the current Army 2013 restructure will specify an enhanced role for the light infantry in training for unique operations.

Doctrine also exists for parachuting capabilities, but an employment concept has not been fully developed. DLCD has identified a requirement for a parachute capability within the Army (as opposed to an airborne capability, the difference being that the latter could be used in non-permissive environments). Preliminary work has been done to define the employment concept, but this is currently on hold pending the results of the Army 2013 restructure. Should the parachute capability currently resident in the light infantry battalions be retained, the employment concept will define individual and collective training requirements.

OPI: CLS
Target Date: 2011

CRS Recommendation

5. As part of the CMTC Future Operating Concept vigorously explore opportunities to provide collective training to NATO and other allies in order to offset costs and better balance its utilization throughout the year.

Management Action

Agreed. The Land Staff receives several requests a year from NATO and Allied Armies desirous of training in Canada. Due to its advanced training facilities and experienced observer/controller staff, CMTC is the venue of choice. CMTC exercises have traditionally been maximized in the spring and fall in order to avoid the heavy summer individual training task period of the summer and the inclement weather from November to March/April. However, CMTC has a full range of activities throughout the year (not just during Exercise MAPLE GUARDIAN, which would impact upon the availability of CMTC (and ASU Wainwright) to support Allied training or exercises.

A further consideration is that any training opportunities offered to NATO countries or other Allies must first be de-conflicted with priority usage of Canadian Army units training for deployment. There would have to be a full analysis of the costs of providing this service to Allies. 1 ASG (LFWA) provides much of the support to CMTC through ASU Wainwright, and there is a requirement for substantial augmentation for Exercise MAPLE GUARDIAN serials. The support requirements would need to be looked at closely in order to ascertain what the additional burden to LFWA (and/or the Army**)** would be**.**

OPI: CLS
Target Date: 2011

CRS Recommendation

6. Increase the export of CMTC capabilities to provide increased value for money and enhanced efficiency of Army collective training.

Management Action

Agreed. There are and will be occasions when the pace of activity at CMTC will not allow for the export of their capabilities. A CMTC “Exportable Catalogue” of capabilities has been developed and was sent to LFDTS HQ in August 2010 for approval and publication. This catalogue lists the capabilities that CMTC can bring to brigades and units to assist with their training, whether on the Road to High Readiness or otherwise. Land Force Areas have shown considerable interest in employing these exportable capabilities. At the present time the capabilities that can be exported by CMTC include trained OCT teams, Contemporary Operating Environment Forces (COEFOR) and the

dismounted Weapons Effects Simulation (WES) suite. The key investment decisions in the future will revolve around whether it will be affordable to make the full suite of CMTC capabilities, including the full WES network-exportable.

OPI: CLS
Target Date: 2011

Army Reorientation 2012

CRS Recommendation

7. As part of Army Reorientation activities post-2011, review and rationalize the organizational structure and resourcing of LFDTS HQ and schools, including CoEs, to ensure that land training management and execution achieve the appropriate balance between effectiveness and efficiency.

Management Action

Agreed. The main effort for the Army Reorientation post-2011 is a full structure review of the field force and Army command and control structure. This work is currently ongoing based on the Force 2013 directive which the CLS signed in September 2010. Once this review of the deployable element of the Army is complete, the intent is to conduct a similar review of the Army training system, to include the schools and LFDTS HQ.

OPI: CLS
Target Date: 2012

CRS Recommendation

8. In collaboration with force generators, develop concepts and doctrine for campaign winning enablers (e.g., Influence Activities and the Comprehensive Approach) with commensurate authorities and responsibilities.

Management Action

Agreed. The management plan, with timelines to implement the recommendation regarding Influence Activities and the Comprehensive Approach is as follows:

December 2011	Enabling concepts issued
December 2012	Experimentation on the concepts completed
December 2013	Doctrine produced
July 2014	Capabilities central to successfully executing Influence Activities and Comprehensive Approach are identified in the PRICIE components.

OPI: VCDS
OCI: CMS, CLS, CAS

CRS Recommendation

9. Ensure that Land Force foundational training reflects an appropriate balance between preparing for stability and COIN operations and for developing skills deemed essential in other aspects of full-spectrum operations, including "conventional" major combat operations.

Management Action

Agreed. There is a clear understanding that conventional combat skills have been somewhat eroded during the period of the Afghanistan operation, and that future training will need to address the full spectrum of operations. CTC will conduct an enhanced number of Occupational Specialty Specifications courses in the 2011/12 and 2012/13 time periods to help address the "skill fade" in conventional operations. A comprehensive review of BTS for collective training is under way, which will also address the balance required between skills for conventional operations and those for counterinsurgency operations.

The Army 2013 studies being conducted in the fall of 2010 identified some COIN-specific capabilities which will be institutionalized within the Army; other capabilities will be divested after the experiences gained in their use has been recorded and analyzed.

A new COEFOR model, incorporating conventional adversary forces, is being developed for use when the first post-Afghanistan high-readiness brigade is trained at CMTC. LFWA has been assigned a standing task to provide a company for this purpose.

OPI: CLS
Target Date: 2011

CRS Recommendation

10. Conduct a comprehensive, coordinated review of Individual Training and IBTC post-2011, and provide the necessary guidance for planning, including the appropriate level of investment.

Management Action

Agreed. A Training System Balance Review is identified on the LFDTS Campaign Plan.

It will be conducted in early 2012, once the Force 2013 studies have identified the new organizational structures and force generation outputs for the Army post-Afghanistan.

OPI: CLS
Target Date: IOC 2013

CRS Recommendation

11. Ensure that land individual training strategies are effective, coordinated and evaluated, and that methodologies selected exploit modern learning theory and technologies to provide necessary training efficiently, while best accommodating the learning styles of trainees.

Management Action

Agreed. The AITA continues to look for opportunities to fully exploit and inculcate new training strategies within the realm of the courses under his purview. To assist in this process, he has charged the Deputy Commander of CTC to look at training modernization with a view to successfully leveraging those technologies available, with the assistance of the Army Learning Support Centre and the Formation Standards Officer (a newly created portfolio), in order to look at short, medium and long term application from a formation perspective. A key part of this initiative is to make best use of distributed learning, e-learning, and adult learning strategies that mirror the learning styles of the current student body. Leading this initiative at formation HQ level will allow maximum uptake throughout the various schools, effective coordination of activities and comprehensive evaluation efforts. While short-term gains are likely in a small number of AIT Army run courses, this strategy is likely to reach its maximum effectiveness over the short to medium term.

OPI: CLS
Target Date: 2012

CRS Recommendation

12. Ensure that post-2011 Army Reorientation activities are adequately funded and resourced to provide sufficient quantities of appropriate combat vehicles and equipment to meet operational, sustainment and training needs. This includes ensuring that equipment acquisition projects include sufficient training assets and logistics and operational stocks to meet identified needs.

Management Action

Agreed. Under the auspices of the Department's Investment Plan (IP), the Army has sought to incorporate a variety of key institutional capabilities focusing upon post-20ll requirements. In all cases, these projects are required to not only address operational requirements, but also Individual Training, Collective Training, and logistic/support requirements. A number of related initiatives support this key readiness effort as follows:

Recurring Operations and Maintenance (O&M). In addition to identifying the capital costs associated with any Army project, it is also crucial that recurring O&M requirements are identified. In order to ensure that sufficient quantities of materiel are available to support operations and training, adequate O&M funding must be made available to support in service support efforts designed to mitigate the challenges associated with a high VOR rate.

The War In Afghanistan. The ongoing war in Afghanistan has been costly not only in terms of human life, but also upon associated materiel fleets. As fleets employed on operations and associated high-readiness training have been accorded a top priority in terms of maintenance resources and personnel, non-critical fleets received fewer resources. This dynamic will continue to be felt during reorientation as operational fleets are repatriated and repaired.

The Post-Afghanistan Transition. In certain cases, fleets introduced since 2004 were specifically procured for the war in Afghanistan. In the case of fleets such as the M777 howitzer, only sufficient quantities were acquired to support ongoing operations as well as a small training fleet to be rotated across Canada. As this fleet was procured as an Unforecasted Operational Requirement (UOR) for Afghanistan, the project had no requirement to address the longer-term needs of the Institutional Army. It was only through follow-on projects such as the Lightweight Towed Howitzer (LWTH) project that Institutional Army requirements were ultimately met through the acquisition of additional howitzers.

Obsolescence Issues. In certain instances, the availability of equipment for operations and training is progressively undermined by a host of obsolescence issues. As fleets approach the end of their projected life expectancy they typically demand more in terms of maintenance and repairs. As a consequence of this, fleet VOR ratings deteriorate. The Coyote reconnaissance fleet is a good case in point as the vehicle's surveillance suite is now plagued by a host of obsolescence issues. These issues are, however, being addressed through the ongoing LAV Recce Surveillance Upgrade (LRSS UP) project.

Capability Development Efforts. In an effort to ensure that future operational and training requirements are met, capital projects are closely integrated within a wider Capability Development continuum examining a host of factors associated with the building, generation, employment and sustainment of Army capability.

Managed Readiness Plan (MRP). The MRP will continue to be a valuable tool in the shepherding of key equipment fleets in support of operations and training. The Army is currently planning beyond operations in Afghanistan in that reorientation efforts are focusing upon the period January 2012 and beyond. In an effort to ensure that key fleets are available for operations and high-readiness training, materiel will continue to be closely managed and controlled to ensure effectiveness is maximized. In certain instances, units in a low readiness posture may only retain modest equipment holdings.

Simulation Capabilities. Over the next five years the Army will be introducing a number of simulation and training system capabilities, which are expected to reduce the burden on the fleets of vehicles and equipment, and avoid the costs of wear and tear, and on spares, fuel and ammo consumption.

OPI: CLS
Target Date: 2015

Annex B—Force Generation Task Organization Matrix

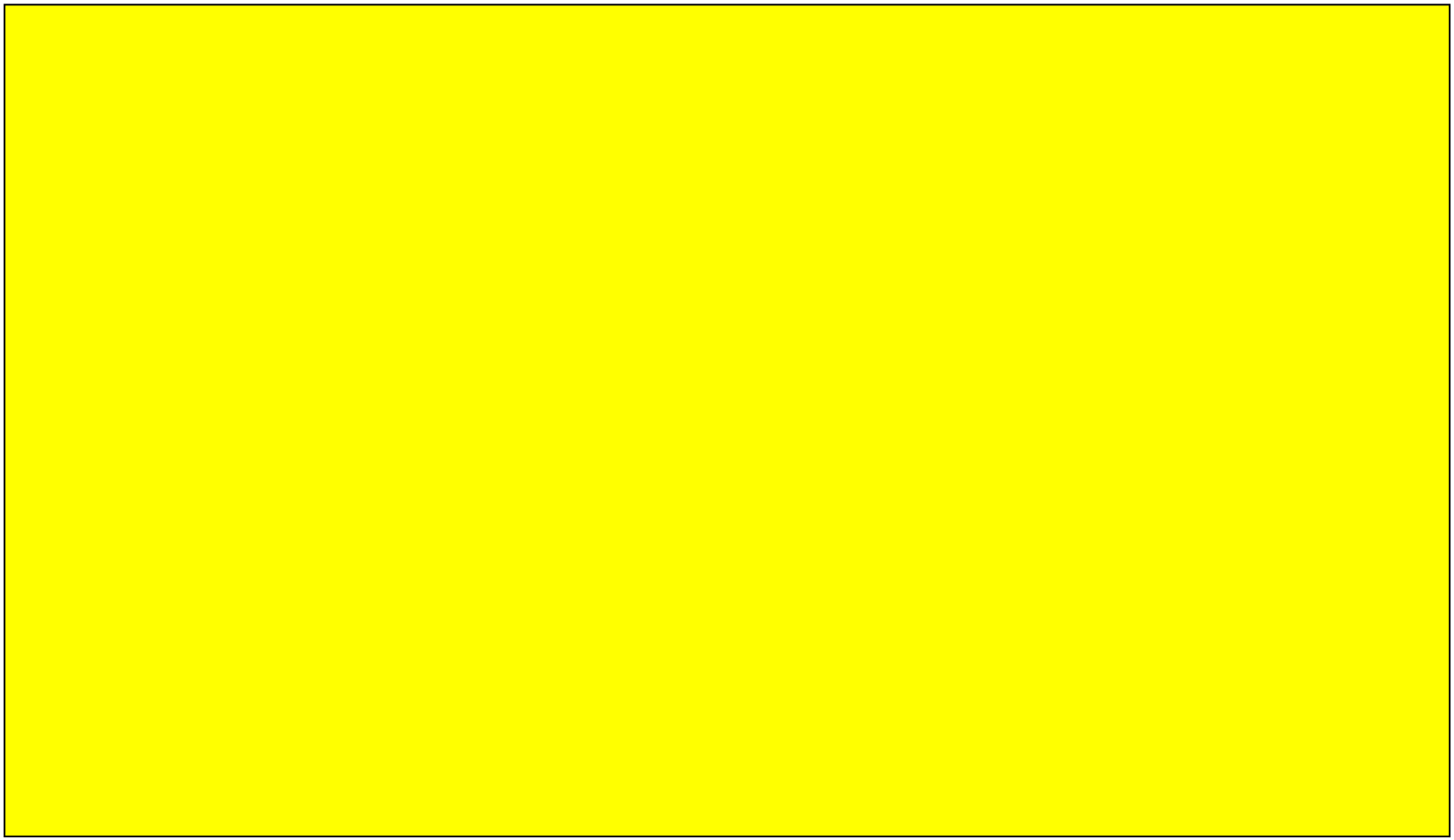

Figure 3. Force Generation Task Organization Matrix. Task Matrix is illustrative of how formations, units and sub-units are designated for Land Force CFDS/Defence Plan tasks.

Annex C—Training Levels

Timing	CAX	FTX	Live fire	TMST/BP	Outcome
Road to CMTC	Level (L)5 Practice L6 Practice	Level (L)3.5 Confirmation L5&6 Practice	Level (L) 3.5 Confirmation L5 Practice L5 Confirmation BG Live	Begin personnel screening & assigned training – history and culture study	BG is Confirmed to L4. L5&6 practiced. Gateway for CMT
CMTC	N/A	L5 Practice/ Confirmation L6 Practice/ Confirmation L7 Practice/ Confirmation		Potential – CoE replication	BG is Confirmed to L6 High Readiness – OPRED with respect to Level 5/6 Collective training
Post-CMTC	Potential Lower Control in L7 CAX if deploying with Brigade HQ	If necessary, mission rehearsal in a simulated theatre Contemporary Operating Environment	Continuation training as required	More history and culture study Language and Threat training complete	BG is OPRED
Low Readiness Training	L5 Practice L6 Practice	L3 Practice	Mandated Personal Weapons Training. L2/L3 Practice where feasible	Individual IBTS as per Land Force Command Order 24-04	90 DAYS Notice To Move (NTM) No formal confirmation
NEO Contingency	No CAX (but may participate in CF NEO CAX/Table Top Exercises)	L4 Practice and Confirmation of NEO BTS as established by CEFCOM/ Army Training Authority of up to three company groups	L3 Confirmation	On order	Given the current personnel shortfall until further notice: Company at 30 days NTM
BG continuation training	L6	L5 Practice	L3.5	As per Commander's analysis	Approval of training plan and funding req through Director Army Training

Table 5. Training Levels. This table taken from the 2009-10 SORD provides a brief summary of the differences in collective training undertaken by the high readiness and reduced readiness formations and units.

Annex D—Land Force Systems Approach to Training (LFSAT)[83]

LFSAT Principles. Similar to the principles of CFITES, the three fundamental principles governing LFSAT as a management model are:

- **Performance Oriented.** In the LF, training and professional development exist to prepare its officers and non-commissioned members (NCM) to successfully perform their duties in combat. All training and professional development must focus on the essential skills, knowledge and attitudes required to meet operational requirements, as tempered by doctrine and its application to a specific mission or theatre.

- **Systems Approach.** LF training and professional development programs are defined, produced and maintained through an iterative and interactive series of steps, leading from the analysis of a requirement to the validation of that same requirement. The steps of the different systems are not always sequential and may be abbreviated or eliminated predicated upon operational imperatives and resources, as determined by commanders. However, all steps must be addressed eventually or commanders risk jeopardizing the foundation of the LF as an institution and its professional health.

- **Optimum Efficiency.** LF training and professional development must be developed and conducted in a manner that prevents or eliminates unnecessary effort and that ensures continuing cost-effectiveness. Objectives, strategies and resource expenditures must be strictly controlled to provide training and professional development that satisfies operational requirements in the most cost effective and efficient manner.

LFSAT Phases. The phases of the LFSAT quality assurance process are described as follows:

- **Analysis.** Determines the required outcome of training and professional development in terms of essential on-job performance (individual) or provision of capability (collective). Effective analysis requires input from doctrine, commanders, staff, end-users, subject matter experts and training or professional development specialists.
- **Design.** Selects or describes a program and an environment that will enable the training audience to achieve, in a cost-effective manner, standards defined in the analysis phase. Design is the responsibility of DAT supported by DLSE and the ALLC.
- **Development.** This phase obtains or produces effective instructional materials and resources that fulfil the intent of the design phase. Responsibilities for training development are split between the AITA for individual training, the Fmn CoE for formation collective training, and DLSE for non-formation collective training. DLSE also supports the Fmn CoE.

[83] B-GL-300-008/FP-001, Training for Land Operations, pp 3-3, 2 October 2009.

- **Conduct.** This phase is the first part of the delivery of the program and enables individuals or collective elements to achieve the required standards. This phase may be a discrete event (e.g., course or training event) or may be comprised of a series of mutually supportive, yet somewhat exclusive, events and prescribed deliverables (e.g., Development Period 1 training on the RTHR). Commanders at all levels are responsible for the conduct of training.
- **Evaluation.** Ensures the effectiveness and efficiency of the *conduct* phase. Evaluation or confirmation has two focal areas: the target audience (i.e., individuals or collective elements), and the program itself (i.e., design, development, and conduct phases). A program is effective if the target audience has achieved the prescribed standards. A program is efficient to the extent that methods, materials, and resource expenditures are warranted. AITA supported by ALLC is responsible for the evaluation of individual training. The Land Forces chain of command is responsible for the evaluation of collective training.
- **Validation.** The purpose of validation is to ensure that instructional programs are effective and efficient. Validation closes the loop on the instructional development cycle by assessing the impact of training on the job performance of Army soldiers. Validation seeks to determine whether the objectives satisfy the performance requirement for which the program was initially produced. Validation is the most critical phase for accurately measuring success or failure and developing the Land Forces as an institution. DAT, supported by ALLC, is responsible for validation.

The products for each phase of the LFSAT quality assurance process are listed at Table 1 in the main body of this report. They include qualification standards, training plans, training support material, courses and training events, performance checks and validation reports.

Annex E—Evaluation Matrix

Relevance

Issues

1. Continued Need for Program

- **Evaluation Questions:** To what extent do the specific needs that the program was intended to address continue to exist?
- **Performance Indicators:** Extent to which the program continues to address a demonstrable need.
- **Data Sources:**
  - *National Defence Act*;
  - DND Report on Plans and Priorities 2010-2011;
  - Strategic and operational direction;
  - CFDS; and
  - Key Stakeholder Interviews.

2. Alignment with Government Priorities

- **Evaluation Questions:** Have the Government's priorities and the Department's strategic outcomes changed since the implementation of the program and is the program supportive of them?
- **Performance Indicators:**
  - Changes to federal government priorities; and
  - Changes to DND's strategic outcomes (PAA).
- **Data Sources:**
  - Government Speeches from the Throne;
  - CFDS;
  - Departmental Strategic Planning Guidance;
  - CDS Direction for Force Generation;
  - DND Strategic Plans; and
  - PAA.

3. Alignment with Federal Roles and Responsibilities

- **Evaluation Questions:**
  - Does the federal government continue to have a role and responsibilities in the delivery of the Program?
  - Does the Program duplicate or overlap with other programs, policies or initiatives delivered by other stakeholders?
- **Performance Indicators:** Degree of alignment with the federal roles and responsibilities.

- **Data Sources:**
  - CFDS
  - *National Defence Act*; and
  - DND Report on Plans and Priorities 2010-2011.

Performance (Effectiveness, Efficiency and Economy)

Issues

4. Achievement of Expected Outcomes

- **Evaluation Question:** To what extent have the program's expected results been achieved and should alternate program design be considered?
- **Performance Indicators:**
  - Ability of the program to provide sufficient numbers of appropriately trained Land Force personnel, units and assigned HQ with the appropriate equipment and supplies at the appropriate standards to achieve PAA outcomes;
  - Ability of the program to react quickly to lessons learned in theatre and implement needed changes;
  - Ability to sustain forces for required deployment period; and
  - Level of satisfaction expressed by force employment stakeholders.

- **Data Sources:**
  - Training After-Action reports;
  - Training Post-Exercise reports;
  - Classified and Unclassified Post-Operations reports;
  - Site visits;
  - Key stakeholder interviews;
  - CCSO reports; and
  - DND Human Resource Management System.

5. Demonstration of Efficiency and Economy

- **Evaluation Questions:**
  - Are the most appropriate and efficient means being used to achieve the program's outcomes and could the same results be achieved with more cost-effective use of resources?
  - Have all the resources originally allocated to this program been used as intended?

- **Performance Indicators:** Evidence that the program planning and delivery make best use of available funding.

- **Data Sources:**
  - Land Force reports and key documentation;
  - Identification of emerging demographic, technological and pedagogical trends and assessment of their appropriateness for program delivery;
  - Course Training Standards/Course Training Plans;
  - Limited benchmarking with US, UK and Australian army training systems; and
  - Key Stakeholder Interviews.

Annex F—Land Readiness and Training Logic Model

Figure 4. Land Readiness and Training Logic Model. The Logic Model is described as a series of inputs and activities, which lead to three main outputs, each of which lead to a final outcomes and two main impacts.