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IMPROVING THE CANADIAN ARMY'S GREEN CULTURE AT THE UNIT LEVEL

MAJOR HEATHER REIBIN

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Major Heather Reibin

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AIM

1. The aim of this service paper is to analyze the Canadian Army (CA)'s environmental practices at the unit level. Climate change is an emerging factor within the Global security environment making environmental stewardship more important than ever for the Canadian Armed Forces (CAF), hence why stewardship is now included in the values of DND and CAF personnel.¹ When deploying domestically or internationally, the public perception of a careless military can have huge strategic effects.² From an army sustainment point of view, minimizing the CA's footprint both in terms of materials required and waste allows for a more adaptable and agile force. This is important for the army of tomorrow³ but also makes better fiscal sense. In order to set an example on the world's stage, the CA must first improve energy saving practices at home by "Thinking globally, acting locally."⁴

This work is a natural fit for the Defence Team. Few Canadians will spend as much time outdoors as a soldier does...its our women and men in uniform who'll be called to respond to more weather-related natural disasters...there are strategic benefits to achieving more sustainable military operations...by using energy more efficiently, and more renewable and clean sources of energy, we're becoming less reliant on large amounts of fuel, some of which is imported to sustain our operations. Energy independence makes for a more agile and secure military.⁵

2. The paper will focus on what is within the unit Commanding Officer (CO)'s sphere of influence and how a green culture could be better incentivized. This will be examined by first reviewing Department of National Defence (DND) and the CA's overarching directions and policies and also the relationship with another level one (L1) organization, Assistant to the Deputy Minister Infrastructure and Environment (ADM(IE)) who is responsible for managing the infrastructure.

¹Department of National Defence (DND). CAF Code of Values and Ethics (Ottawa: DND Canada, 2019), Table 2- 4.2. <https://www.canada.ca/en/department-national-defence/services/benefits-military/defence-ethics/policies-publications/code-value-ethics.html>

² Canadian Army Today, "New strategy for information operations" last modified 14 August 2019, <https://canadianarmytoday.com/new-strategy-for-information-operations/> Russian media posted a false article about Canadian troops leaving garbage in Latvia during its deployment which could have caused much more detrimental effects given the perceptions: James Wilt, "Canada still doesn't know how much pollution its military emits." Last modified 13 March 2017, https://www.vice.com/en_ca/article/ypknzj/canada-still-doesnt-know-how-much-pollution-its-military-emits

³ DND, *Designing Canada's Army of Tomorrow* (Kingston: DND Canada, 2011), 61.

⁴ Wikipedia. "Think globally, act locally", accessed 27 October 2019, https://en.wikipedia.org/wiki/Think_globally,_act_locally

⁵ DND, "Strong, Secure, Engaged: Moving to Sustainable Defence Operations." *The Maple Leaf*. Last modified 29 October 2018. <https://ml-fd.caf-fac.ca/en/2018/10/20965>

INTRODUCTION

2. Canada's defence policy *Strong Secure Engaged* (SSE)⁶, makes it clear that climate change is a real problem that the CAF must respond to both domestically and internationally. SSE articulates that DND represents more than half of the Government of Canada's greenhouse gas emissions and outlines DND's commitment to the environment by setting a clear target for reducing them by 40% over a 25 year span.⁷ The *Defence Energy and Environment Strategy* (DEES) aims to further deliver four objectives: Less energy waste, cleaner energy, a reduced Defence environmental footprint and better-managed energy and environmental performance.⁸ Positive strides are being made at the strategic and institutional level, specifically in the area of new energy efficient infrastructure, however managing the existing infrastructure is a challenge. Since 2016, all infrastructure is managed by ADM(IE) Real Property Operations (RP Ops).⁹ This centralized many of the decisions and processes however also took away some accountability and responsibility from the users since the facility management and funding is not controlled by the unit. At the typical CA unit, COs are therefore not empowered or resourced to improve their energy efficiency or reduce their waste and the typical soldier is unaware of what they could be doing to help. Competency, accountability and responsibility for infrastructure related resource consumption are not aligned in units.

3. Every unit in the CA is bound to follow the CA Environmental policy which outlines the CA's expectations, obligations and overall commitment to minimizing the environmental impact of its operations.¹⁰ Of these specific commitments, one of them is to "raise awareness and promote environmental matters"¹¹ but these initiatives are base/unit dependent with no standard methods across the CA and it is unclear how much is within the CO's control. In March 2011, the *Audit of Defence Sustainable Development Strategy (SDS)*¹² noted a requirement for improved coordination between policy, command and operational areas and lack of incorporation into business planning. Overall "clear accountabilities and improved initiative measurement and reporting are needed to facilitate the assessment of departmental progress against sustainable development targets."¹³ Though this study is dated, the recommendations are still valid today. This service paper will argue that the CA needs to revitalize its environmental policy by better preparing unit COs to instill green culture, re-engineering the existing environmental program and creating incentives at the lowest level. This will be examined through an

⁶ DND, *Strong, Secure, Engaged: Canada's Defence Policy* (Ottawa: DND Canada, 2018), 75.

⁷ *Ibid.*

⁸ DND, *Defence Energy and Environment Strategy (DEES)* (Ottawa: DND Canada, 2017), 1.

⁹ DND, *Evaluation of Infrastructure Management- Real Property* (Ottawa: DND Canada, November 2018), 1.

¹⁰ DND, *Canadian Army Environmental Policy* (Ottawa: DND Canada, 2019), 1.

¹¹ *Ibid.*

¹² DND, *Audit of Defence Sustainable Development Strategy by Chief of Review Services*, (Ottawa: DND Canada, March 2011), 1

¹³ *Ibid.*

organizational behaviour framework and the change-management method of re-engineering.

DISCUSSION

How to change behaviour

4. Organizational behaviour is defined as “a field of study that investigates the impact that individuals, groups and structure on behaviour within organizations with a goal to apply such knowledge toward improving organizational effectiveness.”¹⁴ There are two goals to planned change using the organizational behaviour theory: to improve the ability of the organization to adapt to new factors in the workplace and secondly to modify the employee behaviour.¹⁵ The CAF environmental policy has been in existence since 1992¹⁶ and although significant progress has been made there is still much to be done. The new factors in the workplace are society’s shift towards a greener culture and the fact that the Defence generates a great deal of waste which must be reduced.¹⁷ Many of the practices the units are conducting could benefit from a process called *re-engineering* which is defined as “a fundamental re-thinking and redesign of process to create a dramatic improvement in product.”¹⁸ There are three key elements which will drive the analysis:

- a. identifying an organization’s distinctive competencies: what the organization delivers better than its competition and which activities are crucial to the organization’s success;
- b. assessing core processes (what adds value to these distinctive competencies); and
- c. reorganizing horizontally by process (cross functional and self-managed teams focusing on processes rather than functions).¹⁹

This three step process will be applied to each problem area as it is analyzed.

Better Preparing COs to implement Green Culture

5. A critical task to change organizational behaviour is for COs to change the environmental culture in their units. COs have many competing responsibilities and priorities; however, they also have significant influence and many hardworking people

¹⁴ Nancy Langton and Stephen P. Robbins, *Organizational Behaviour: Concepts, Controversies and applications* (Toronto: Pearson Education Canada, 2003), 4.

¹⁵ *Ibid*, 538

¹⁶ DND, DAOD 4003-0, *Environmental Protection and Stewardship*, (Ottawa: DND Canada, last modified 30 July 2004) <https://www.canada.ca/en/department-national-defence/corporate/policies-standards/defence-administrative-orders-directives/4000-series/4003/4003-0-environmental-protection-and-stewardship.html>

¹⁷ DND, *DEES...*, 25.

¹⁸ Nancy Langton and Stephen P. Robbins, *Organizational Behaviour...*, 538

¹⁹ *Ibid*, 539

that can implement their direction. Currently the COs must follow the CA policy but do not undergo any specific environmental training (with the exception of the green procurement course) and have reduced responsibility and authority for their buildings despite being the primary occupants. Using the re-engineering method, the question to be posed is *Starting from first principles, how would the CO seek to eliminate waste or conserve energy?* Considerations should be given to an agile sustainment concept.

a. One of the *distinctive competencies* in the CA is the authority of the CO whose is able to influence a large group of people with their direction by virtue of their Command appointment unlike other civilian organizations. In addition to this authority is the ability to accomplish a wide variety of missions and tasks, based on a higher command direction: otherwise known as Mission Command. Therefore, at the highest levels of the CA, environmental stewardship must take on a new importance so that unit COs can shift the mindset of their members and then be resourced accordingly. Linking this to one of the army operational functions, *sustain*, gives all CA units a common frame of reference. In the future, the army sustainment concept must be highly integrated and is likely going to rely more on integrated air support.²⁰ This reinforces the concept of minimizing what needs to be transported including disposable items, waste and in some cases taking risk on bringing less contingency items.

b. The second key element for re-engineering is the *core processes (or what adds value)* which in this case would be the business planning of the CA (and literally adding financial value). Starting from first principles, many costs could be minimized simply by re-evaluating the need and coming up with innovative ideas. Consider the example of disposable dishes during meals either at the garrison or in the field. At some point the army stopped having soldiers use the issued plate, knife, fork and spoon (KFS) and mug. Now the quartermaster's (QM) staff must order, store, transport and pay \$266 per meal²¹ for disposable plates, cups and KFS for 500 people. One meal may not seem significant but for the typical exercise with a field kitchen and 1000 people per meal (once attachments and visitors are added in), three meals a day for 30 days, that's a savings of 48K- enough to cover an additional companies training budget (this cost does not include waste disposal costs). A CO can easily explain to the unit that these savings are worth bringing their issued plate, KFS and mug to every meal. This is one of many processes within the CO's control that could be changed and the savings can go directly back into the Unit's budget.

c. Finally, *reorganization by process* will examine training and communications as a means to better prepare the COs to implement green culture. Efficiencies can be found by using existing training opportunities, providing short and concise tips for taking ownership of their buildings, equipment and energy use with reinforcement of the relevant policies. An initial meeting with the RP Ops contact before handing over future communications to the designated facility

²⁰ DND, *Designing Canada's Army...*, 61, 70.

²¹ Email from Foods O, Capt Francesca Walsh, 5 CDSB Gagetown, 26 October 2019.

rep is essential in building that relationship. Communication chains between the key stakeholders on a given base must be clearly laid out.

Re-engineering the existing environmental programs

6. Though the CO has great influence, they rely heavily on their staff to implement this direction, in this case, the Unit Environmental Officer (U Env O). This is typically a secondary duty for an officer. As per the *CA Order (CAO) Environmental Management System (EMS)*,²² a few of their duties include completing a course, conducting a unit annual brief and as needed to short-term contractors and employees. There is a significant amount of reporting and recording both in garrison and in the field. During the last *Environmental Management Review* by Director Land Environment, the CA had difficulty completing all these tasks, there was a lack of conformity in many of the processes and many corrective actions being handled slowly.²³

a. Beginning again with the idea of re-engineering, what are the *distinctive competencies* with respect to programs in the military? The CA thrives on Battle procedure, routine and inspections which provide measurable outputs. A more rigorous environmental program could be instilled where weekly briefs or training are conducted just like the current safety program. This places the emphasis on a greener culture on a weekly basis. Inspections are starting to be implemented but not on a consistent or standard basis. The results can specifically measure their progress, be tracked by higher and encourages a collective approach.

b. The *core processes* would be leveraging existing subject matter experts (SMEs) such as the full time base civilian Environmental Officers (Env Os) who have significant expertise, experience and continuity. They report to the Div Env O therefore they can more easily bring best practices from other bases to the units. Regimental Sergeant Majors (RSMs) can then harness the power of the duty staff to enforce these unit policies. *DEES* recognizes the importance of applying the three Rs (reduce, reuse and recycle),²⁴ however most units could be better equipped with easy to use separation bins. In provinces that receive refunds for bottle donations this cashback can be used for unit activities. For more in depth analysis the Royal Military College Green team of experts can assist bases with respect to sustainable management of infrastructure.²⁵

c. *Re-organizing processes* would see environmental considerations built into all planning processes as opposed to functionalized. However, the U Env O should remain as a functional expert and be standardized at the Major level with a full time deputy acting as quality control and a representative in every sub-unit.

²² DND, *Canadian Army Order (CAO) Environmental Management System (EMS)*, (Ottawa: DND Canada, 2015), 1.

²³ DND, *Director Land Environment Environmental Management Review*, last modified 30 September 2019, <http://acims.mil.ca/sp/EMS/ACT/MgtReviewRecord.aspx>

²⁴ DND, *DEES...*, 31.

²⁵ DND, *Royal Military College (RMC) Green Team*, last modified 15 August 2019, <https://www.rmc-cmr.ca/en/civil-engineering/rmc-green-team>

Once the program becomes more developed like the safety program, everyone is empowered to do their part as opposed to just a few trying to follow the policy.

Creating incentives and providing education at the lower levels

7. The *CAO EMS* outlines the corrective action procedures in great detail for those who do not properly follow guidelines,²⁶ however there is a distinct lack of positive reinforcing of initiatives which could be more successful. One of the targets in *DEES* was for ADM(IE) to hire energy managers at all bases by 31 Mar 2019. They are responsible for finding opportunities to reduce greenhouse gas emissions, identify efficiencies and deliver awareness for building occupants.²⁷ They have already begun conducting visits all across the country and could be a force enabler for unit COs to help create initiatives.

a. In the domain of *distinctive competencies*, soldiers in the CA can be uniquely motivated through time off and physical fitness. Most sub-units conduct group physical training every day. If soldiers were encouraged to use physical means instead of a vehicle to get to work as per *DEES*,²⁸ they could be rewarded by either missing the group activity, leaving work earlier or name entered into a draw to win the money from the bottle collection now in place. Mental health can be improved by encouraging office plants which reduce stress, anxiety, boost oxygen levels and remove harmful pollutants.²⁹

b. *Core processes* in the incentive domain at the organization level would be finding what adds value to the unit. Now that every building is being measured for energy loss, members can learn more about energy saving techniques while competing for a prioritized minor new construction on their unit lines by RP Ops.

c. *Reorganizing horizontally by process* would see greater collaboration with the existing entities (RP Ops, Base Env O, U Env O and facilities point of contact), encouraging initiatives at the lowest level. Base Env Os could assist with signage to encourage energy saving measures, being enforced by duty staff.

CONCLUSION

8. By using the organizational behaviour framework and the change-management method of re-engineering, this service paper was able to examine various aspects of the CA's environmental stewardship at the unit level. Upon reviewing the various strategic documents and orders there is a significant amount of direction however it is the implementation that falls short. The CA must revitalize its environmental program by re-engineering three of its major components. The first is the Command oversight: better preparing unit COs to instill green culture by reinforcing the linkage to sustainment as a key op function at home and abroad. Secondly, re-engineering the existing environmental

²⁶ DND, *CAO EMS*..., 7.

²⁷ DND, *DEES*..., 30.

²⁸ DND, *DEES*..., 30.

²⁹ NASA, *Interior Landscape Plants for Indoor Air Pollution Abatement* (Mississippi: Svedrup Technology Inc, 1989), 18. <https://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/19930073077.pdf>

programs to mirror that of the safety program. Finally, creating and encouraging incentives at the lowest level while providing education.

RECOMMENDATION

9. In order to further our environmental stewardship, the CA must empower CO's and provide resources. As a key change initiator, one lecture on Joint Command Staff College (JCSP) should give an overview of how RP Ops can assist units with key energy, money, waste saving strategies and possible incentives. Once chosen for command, another focused lecture on the Command team course for the CO and RSM must reinforce its importance and finally a base specific brief with the introduction of the key players from RP Ops and the base Env Os. COs who increase their unit's environmental stewardship could be rewarded with points on their PER or given other incentive.

10. The use of disposable dishware should be minimized when possible. Uneaten food should be gathered in a compost bin and taken to the base kitchen for central disposal saving an enormous amount of waste in addition to cost. Dishwashing stations would be easy to manage under company sergeant majors using the Grey water bins already in place on every base and during deployments. Charge for disposable cups at the canteen and provide incentives in order to encourage members to bring their own.

11. Re-engineer the environmental program so that it includes the same checks and accountability as the safety program with Base Env Os in close support. As a minimum, units can improve the waste collection system by ensuring there is a recycling bin by every garbage with the proper signage and further separated where refunds are given for drinking containers. Paper use should be minimized with the assistance of signals personnel automatically placing settings on double sided.

12. Base energy managers to provide U Env Os with standardized signage for cost and waste saving ideas. Turning off all the lights on base for an extra hour a day would save 40K/year.³⁰ Emphasis on incentives and rewards for positives green initiatives. The CA is a busy organization; however, this culture change is one that should be embraced for the betterment of the future. Developing these habits at home will translate into a more environmentally conscious CA whether deployed domestically or internationally and will continue to be seen as *Strong, Proud and Ready*.³¹

³⁰ DND, *12 RBC presentation* presented by Claude Lavoie, Quebec City: DND Canada, 2019

³¹ DND, *Strong Proud Ready, Army Mission Ready site*, last accessed 27 October 2019, <https://strongproudready.ca/missionready/en/home-en/>

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