Improving Peacekeeping Operations Through Lessons Learned Analysis

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ABSTRACT

This paper documents an approach to identify the most common problems that arise in peacekeeping operations. The methodology of the study was an analysis of the lessons learned from international operations. Focussed in particular on operations from the last decade, a database was developed to characterize each operation and the associated lessons learned and their relative importance. The database was used to sort lessons by type of operation, phase of the operation, and by the region of the operation. The flexibility of a database for grouping information into different categories was exploited to facilitate the analysis.

The lessons learned database was compiled from a sampling taken from unclassified sources, primarily the Canadian Army but also from United Nations and NATO reports. The analysis has provided a breakdown of the different types of operation by year, size and region. It shows what types of lessons occur most frequently in peacekeeping as opposed to peace enforcement or humanitarian assistance operations. The differences in the types of problems that occur in different operations and in different regions are also shown.

The study illustrates trends in lessons learned useful for directing efforts in Canada to improve the ability of the Canadian Forces of the future to react to requests to support United Nations and NATO missions. It also demonstrated the utility of developing and maintaining databases on the department's activities for research and analysis. The analysis of historical

databases, even over a period of 10 years, should be an effective tool for diagnosing and correcting problems and for guiding the force development process.

INTRODUCTION

The analysis of completed operations is an important component in the force development process. The analysis of lessons learned from peacekeeping operations provides valuable direction for improving the operational planning process, command and control in international deployments, and the structure and organization of contingency forces. Each mission is unique, so it is through the identification of trends over different operations that problems can be identified reliably as issues requiring change in the department. The analysis of information collected in databases has become a simple and effective analytic process with the evolution of personal computers and applications like MS Access. Analysts with relatively simple training can organize and manage the information and conduct sophisticated queries. Members of the Operational Research Division (ORD) in National Defence Headquarters (NDHQ) in Canada used this approach for the collection and organization of information on operations and the lessons learned from operations to conduct this analysis.

Two databases were developed one on operations and the other on lessons learned. Information was collected electronically from the Canadian Army's primary lessons learned publication [1], from Internet websites created by the United Nations [2] and NATO [3], and from the Canadian Department of National Defence Intranet websites [4]. A number of hardcopy references were consulted [5 - 9]. The expression lesson learned, which is used throughout this paper, refers to lessons identified and reported. This analysis does not address the resolution of deficiencies, it only highlights areas where problems occur and indicates if they persist.

The study focuses on Canada's international operations over the last ten years. Although there are approximately one hundred operations in this period, only operations in the following missions contributed significant lessons learned:

MNF, IFOR, SFOR, ECMMY, MINURSO, MOGDR, ONUSAL, UNHCR, UNITAF, UNOSOM, UNPROFOR, UNSMIH, UNTAC, UNAMIR.

The rationale for this project was to determine if one or two analysts could perform a successful analysis over a period of several months using standard personal computers and database software (such as MS Access). An important overriding factor was that the analysis should rely on information from open or at least unclassified sources. In the end, primarily one analyst with assistance from a second conducted this work. The analysis required approximately three months of effort and identified valid trends as judged by Canadian staff officers involved in operations and lessons learned. This paper reports on the methodology and the findings of the analysis.

The first task in this study was to design the databases. The selection of the types of information to be collected was made based upon consideration of the questions (or queries) that would eventually be asked. The Operations Database was to provide information on the regional distribution of operations and the level of commitment in terms of both troops and duration. The Lessons Learned Database contained all of the lessons identified in the

references categorized by operation type, by operation phase, and by the type of problem and severity. The facility to make queries on both of the databases was created with a logical linkage via the Operation Name field. An operation may have one or more lessons, but any lesson must belong to a single operation. The structure of both databases is described in Annexes A and B.

ANALYSIS OF OPERATIONS

The Operations Database was used to analyze the distribution of operations by region and operation type and to examine the temporal distribution of operations over the last decade. The overall distribution of Canadian operations by region and type is shown in Figure 1. Each bar in the plot represents the total number of that type of operation in that region. An examination of the Figure 1 indicates that most of the operations with Canadian participation are peacekeeping. These operations are evenly distributed by region. Humanitarian assistance is the next most frequent operation followed by peace enforcement operations, which have been primarily in Africa and Europe.

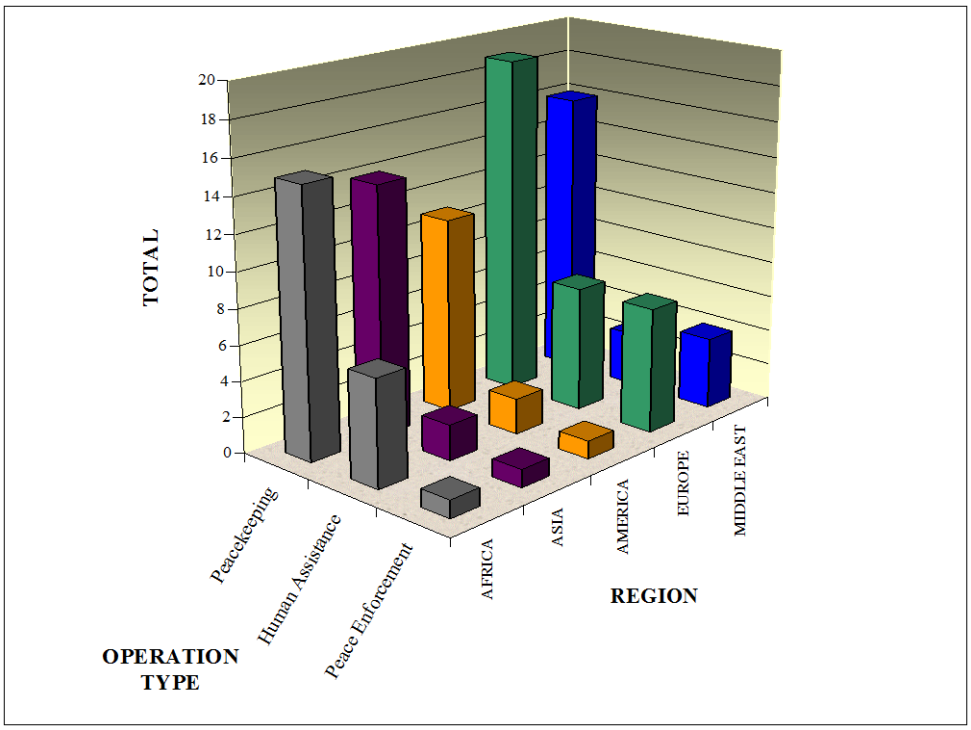

Figure 1: Distribution of Operations.

A projection of the operations data by region is shown in Figure 2. This shows the relative distribution for all operations over the five regions. Canada's activities are well distributed with Europe being the region with the highest frequency. This is due to the number of conflicts generated in the Balkans during the last decade. Africa and the Middle East are next in frequency and have seen approximately the same number of operations.

Figure 3 shows the overall distribution of operations by type. As noted earlier, Canada participated in peacekeeping operations most frequently, i.e. 70% of the time. Humanitarian

assistance and peace enforcement ranked second and third at approximately 20% and 10% respectively.

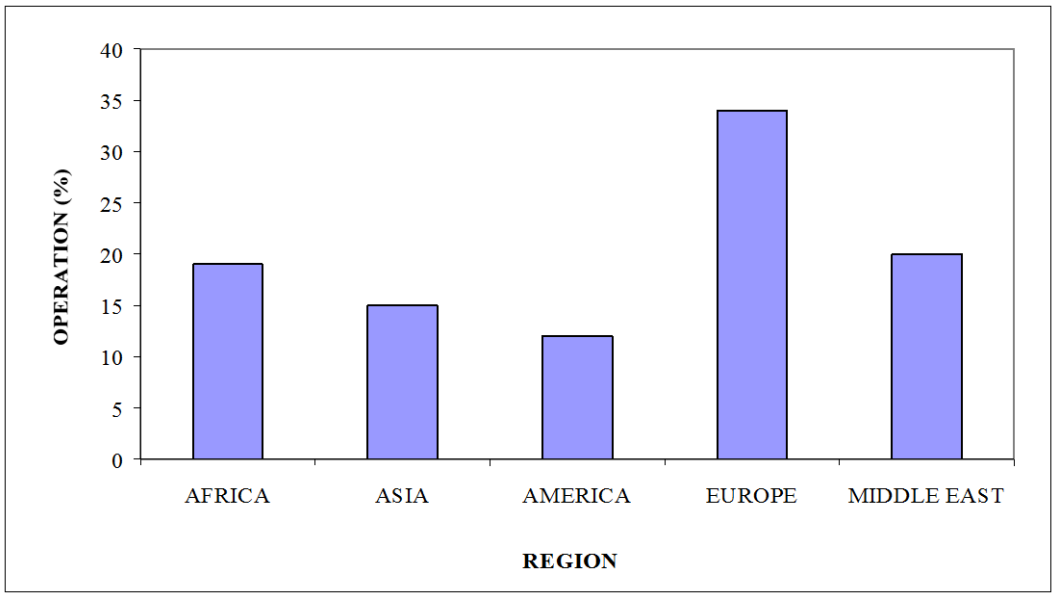

Figure 2: Regional Distribution of Operations.

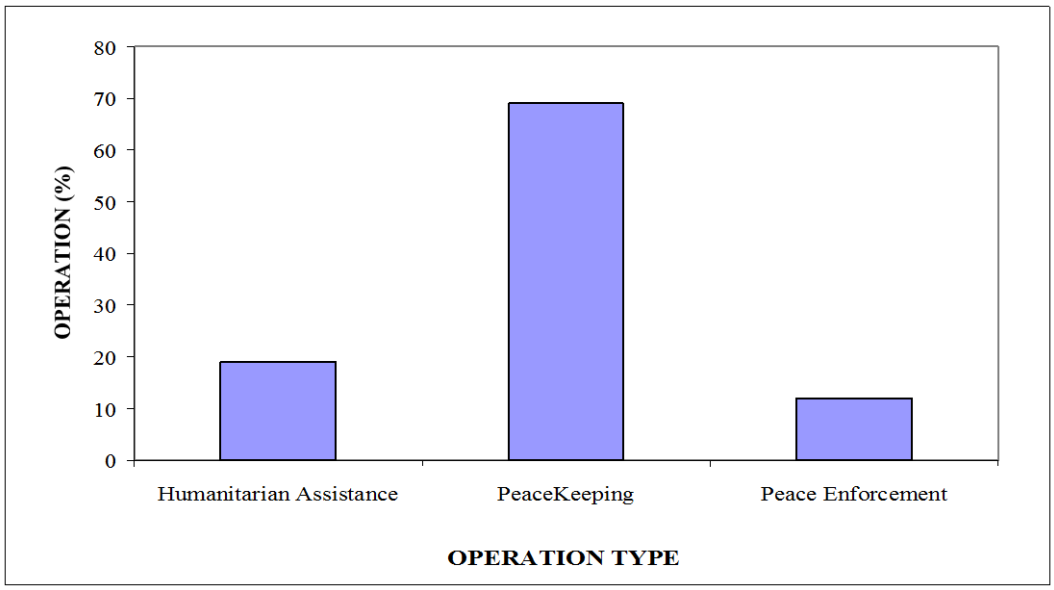

Figure 3: Distribution of Operations by Type.

Figure 4 shows the temporal distribution of operations during the period 1990 to 1999. It is important to note that these are the new operations initiated each year. Frequently, new operations are named as troops rotate into existing missions. The figure shows the subset of operations in the database for the United Nations. The distribution in this chart indicates the significant portion of Canadian operations in support of United Nations missions. Figure 5 shows the numbers of Canadian troops deployed on these operations.

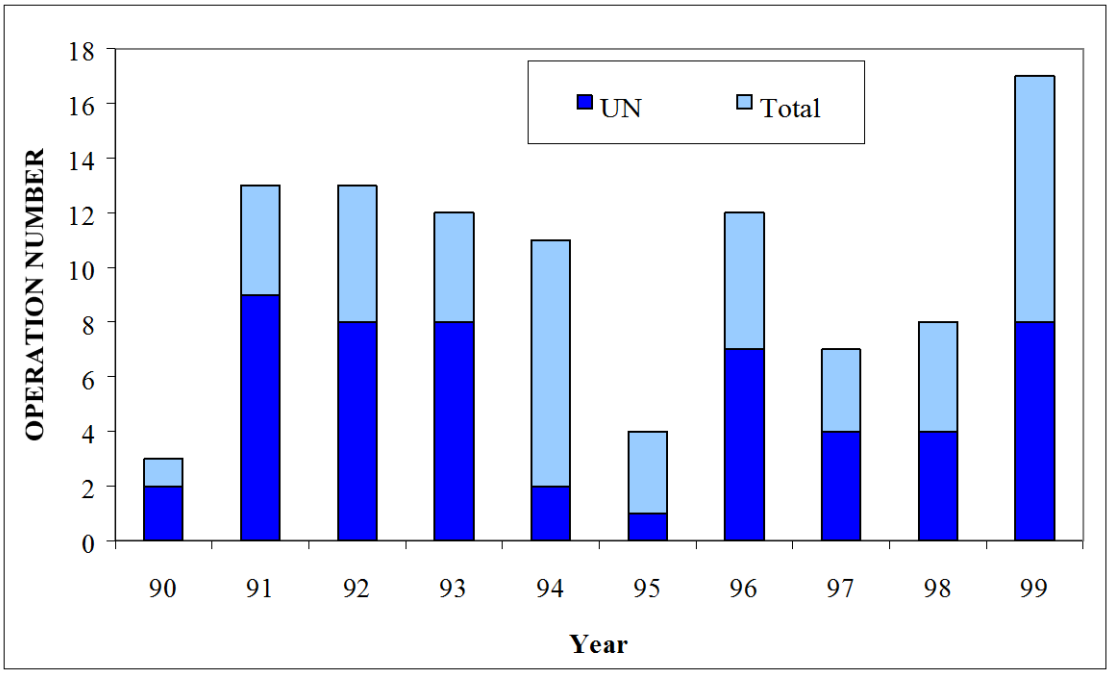

Figure 4: Distribution of Operations during the Last Decade (1990-99).

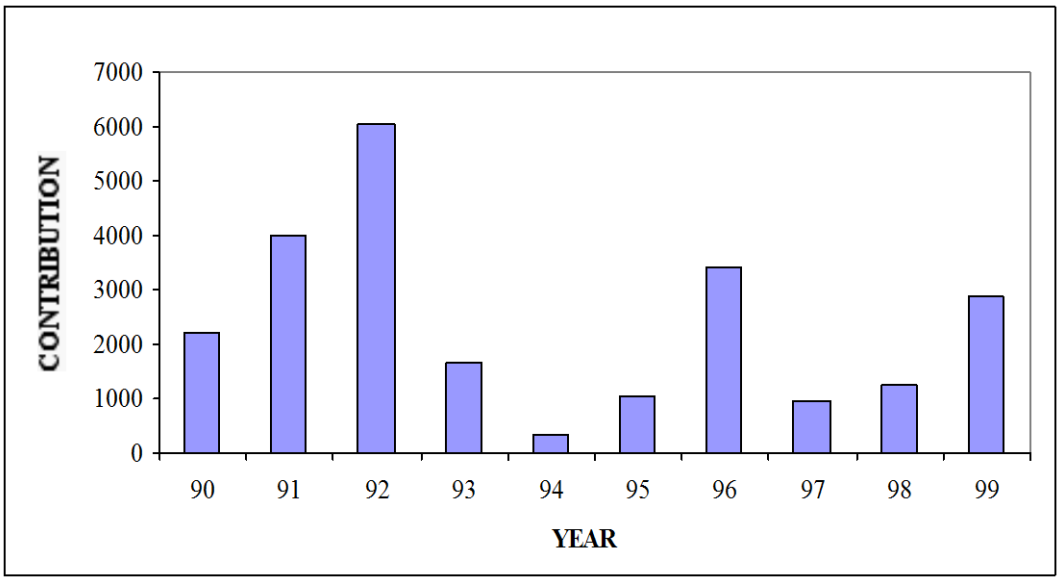

Figure 5: Distribution of Deployed Strengths during the Last Decade (1990-99).

ANALYSIS OF LESSONS LEARNED

It is necessary, for a detailed analysis of lessons learned, to develop a database structure that provides a qualitative method for categorizing lessons that supports a quantitative analysis. Referring to Annex B, 11 categories have been selected for grouping lessons. This provides a basis for analyzing lessons by operation type, phase and region. Further to that, and also for the purpose of developing a quantitative analysis, lessons have been ranked by importance. The four categories of lesson importance and the criteria are as follows:

a. Very Important: describes a serious problem that can have a large impact upon the operation success and should be resolved quickly;

b. Important: describes a problem that should be resolved for future operations;

c. Somewhat Important: describes some observations or recommendations for consideration in future operations; and

d. Not Important: describes an isolated problem that has a small impact on the operation success or on the troop conditions, but worthy of note.

The lessons were categorized and sorted by a team of military officers and analysts. The lessons were initially categorized and sorted by the analyst responsible for reviewing all the sources, then a team of two officers and one senior analyst validated the entire database.

Figure 6 shows the general distribution of the lessons learned by importance. The percentage of the total lessons learned is plotted versus importance. This figure indicates that most of the lessons learned are classified Important. That 95% of the lessons learned are of importance is merely a reflection of the fact that unimportant issues are generally not lessons. The importance of this figure is to validate the categorization process. Across the database as a whole it is observed that the preponderance of lessons are rated Important with approximately 10% being Very Important and 20% being Somewhat Important. It is reasonable that around 10% of the lessons learned should require swift intervention.

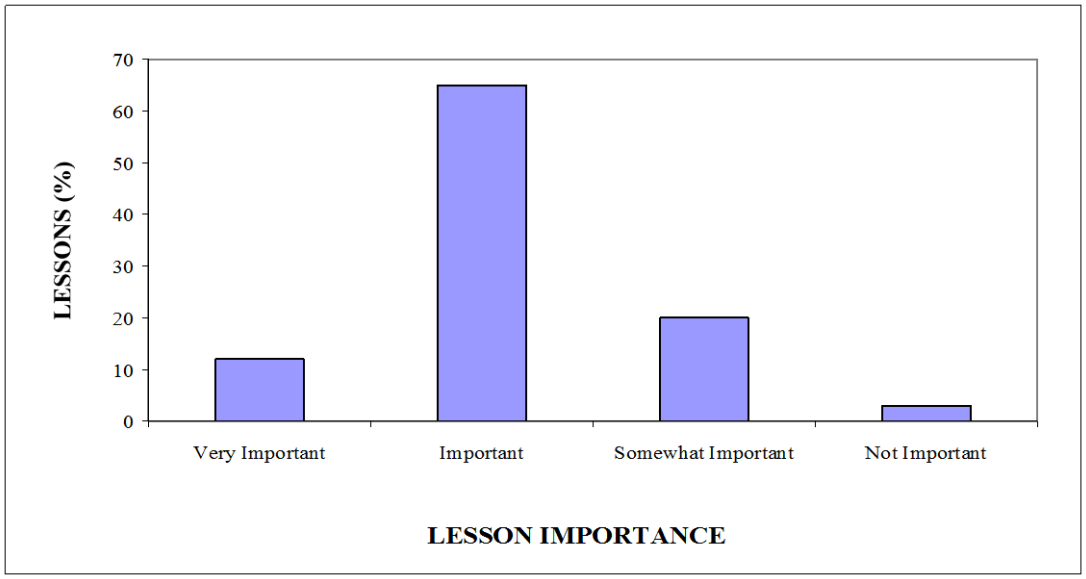

Figure 6: Distribution of Lesson Importance.

Figure 7 shows the percentage of lessons learned for each category of importance by operation type. The same tendency is observed for each type of operation. Most of the lessons learned are classified Important. This also shows that considerations for the lessons learned have to be taken for all operation types. In particular, lessons for peacekeeping and humanitarian assistance operations are the most significant. Peacekeeping operations gave rise to about 60% of the collected lessons. On the other hand, peace enforcement operations did not present many issues and consequently will not be considered further in this analysis. Therefore, in the remainder of the study, only peacekeeping and humanitarian assistance

operations will be analyzed for detailed lessons learned. In each case, data projections have been conducted on the operation phases for the 11 lesson categories.

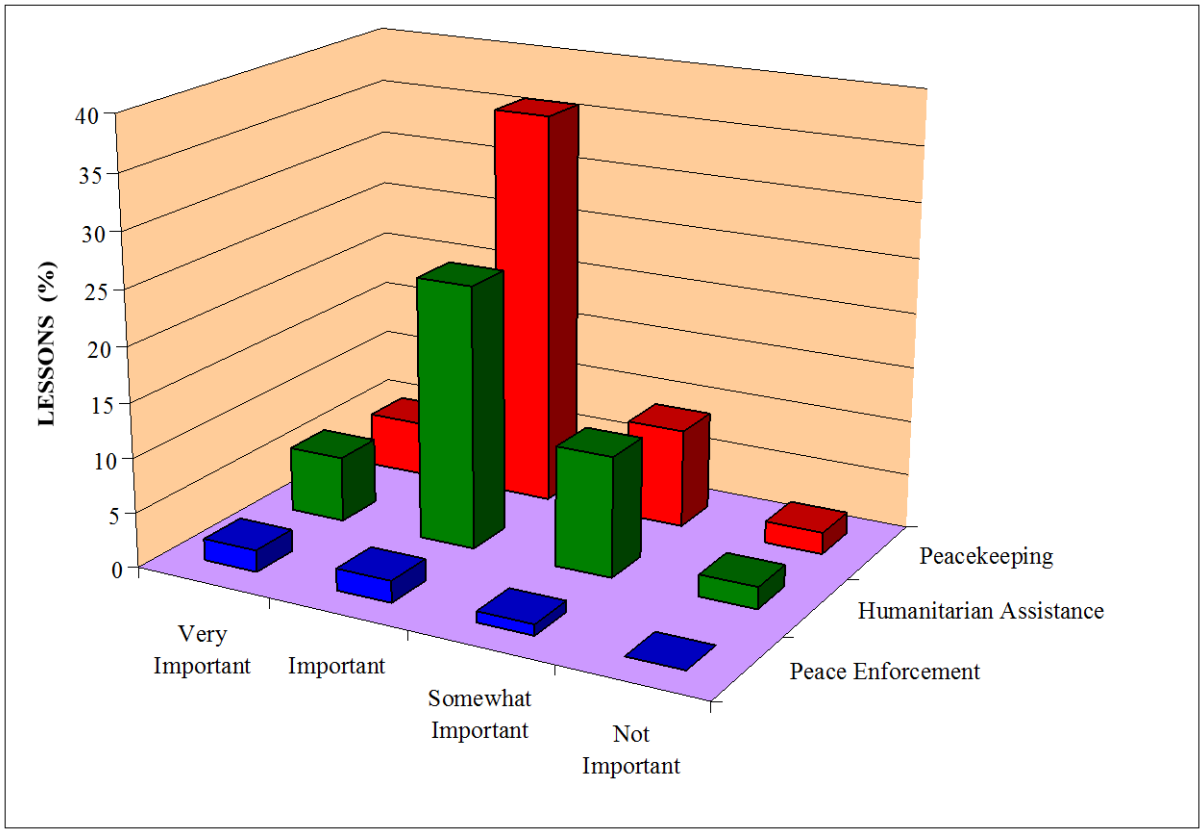

Figure 7: Lesson Importance versus Operation Type.

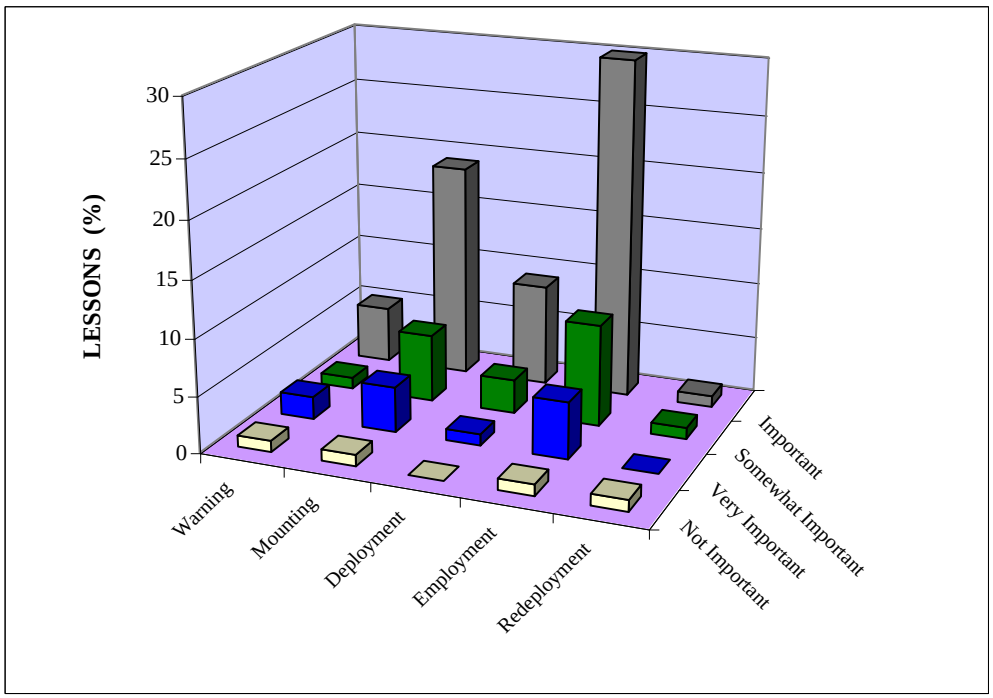

Figure 8: Lesson Importance versus Operation Phase.

The distribution of lesson importance with the operation phase is represented in Figure 8. It can be seen that the majority of the lessons learned are classed Important regardless of the operation phase. In particular, the employment phase has the most significant percentage of lessons learned classified Important. The lack of lessons learned for the redeployment phase did not permit an analysis of the lesson importance distribution. This study will therefore focus only on the other operational phases. In general, the lessons learned during the warning, mounting, deployment and employment phases are significant and have to be considered and emphasized in order to improve future operations.

ANALYSIS OF PEACEKEEPING LESSONS

In this section, the analysis of the lessons learned will be presented by operation phase. This will focus on the lesson categorization and the phases with significant lessons learned. Figure 9 shows the relative distribution of the lessons learned for each operation phase in peacekeeping operations. The majority of the lessons learned were during the mounting, deployment, and employment phases with the most lessons of all being observed during the employment phase.

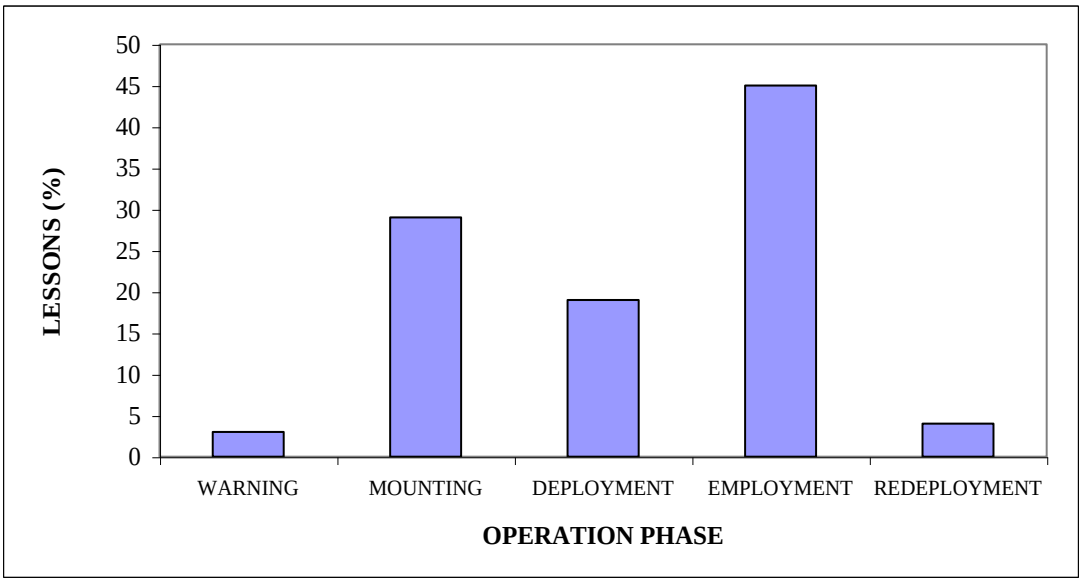

Figure 9: Lessons Learned per Phase for PK Operations.

A projection of the lessons learned onto the lesson categories during the mounting phase is presented on the Figure 10. This figure indicates that readiness and training is the most important category to be considered during the preparation of an operation. It was noted that many of the problems faced by the Canadian contingents were related to training. Logistics and human resources problems were also observed during the mounting phase but they remained relatively small in number. There were no problems related to command, control and communications, military and security, and the medical service categories. So, particular attention to readiness and training issues is indicated during the mounting phase.

The relative distribution of the lessons learned categories during the deployment phase is shown in the Figure 11. An examination of this figure indicates that the following categories

received a significant number of issues and consequently should require emphasis in future peacekeeping operations. Among these categories, joint doctrine and procedures was the category having the largest percentage of lessons learned.

a. Command, control, and communications;

b. Force structure;

c. Joint doctrine and procedures;

d. Logistics; and

e. Planning.

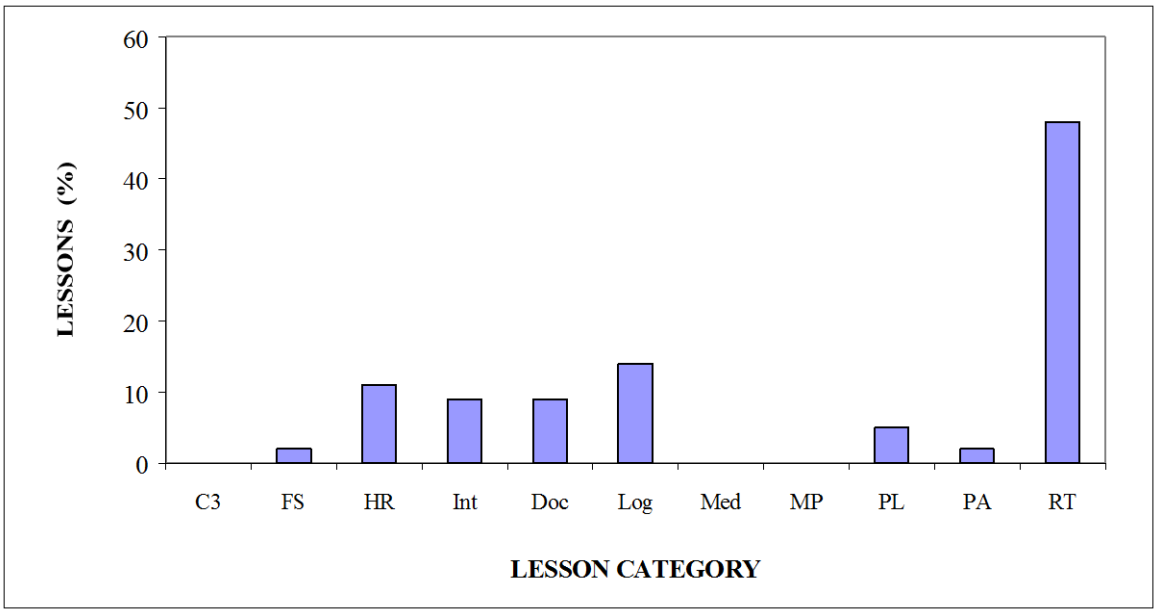

Figure 10: Lessons Learned versus Lesson Categories (Mounting Phase).

The representation of the lessons learned versus the lesson categories, for the employment phase of peacekeeping operations is shown on Figure 12. This figure indicates a dominance by the logistics category, which comprised approximately 50% of the lessons collected for this operation type. Command, control and communications, and human resources are seen to generate some issues but they remain relatively small in comparison with logistics. It is also noted from Figure 12 that contrary to the previous phases all categories in the employment phase contain issues.

ANALYSIS OF HUMANITARIAN ASSISTANCE LESSONS

As in the case of peacekeeping operations, lessons learned for humanitarian assistance will first be analyzed by projecting data on the different operation phases. Figure 13 shows the distribution of the lessons learned with the operation phases. It indicates that warning, mounting, and employment phases were the phases of interest. In particular, the employment phase was the most critical one in terms of percentage of lessons learned generated. The

warning phase was not too significant but it remained important to consider in this analysis. In this section, the focus will only be on lessons learned during the three principle phases and the analysis will be based on the lesson categories.

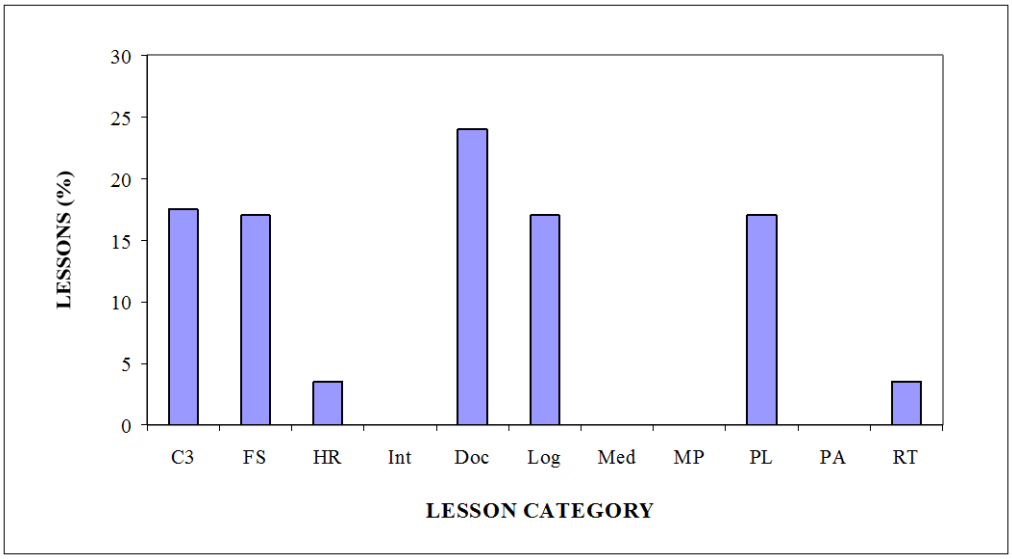

Figure 11: Lessons Learned versus Lesson Categories (Deployment Phase).

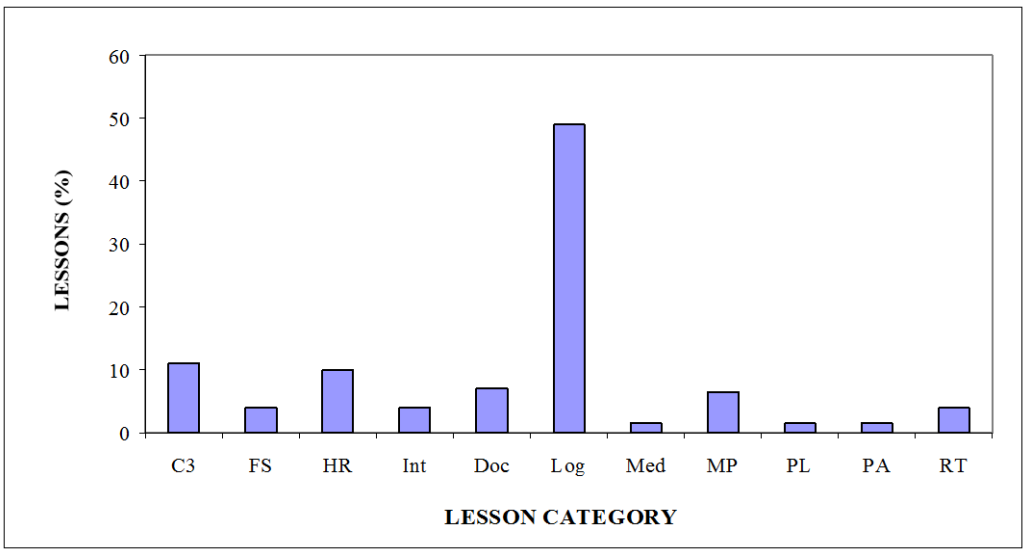

Figure 12: Lessons Learned versus Lesson Categories (Employment Phase).

Figure 14 shows the distribution of lessons learned with the different lesson categories during the warning phase of humanitarian assistance operations. The following categories were identified as the key areas for attention in this phase:

a. Command, control and communications;

b. Intelligence; and

c. Joint doctrine and procedures.

Intelligence and joint doctrine and procedures were the most significant categories during this phase; however, it is recognized that at the warning phase of an operation, these are the activities that come to the fore.

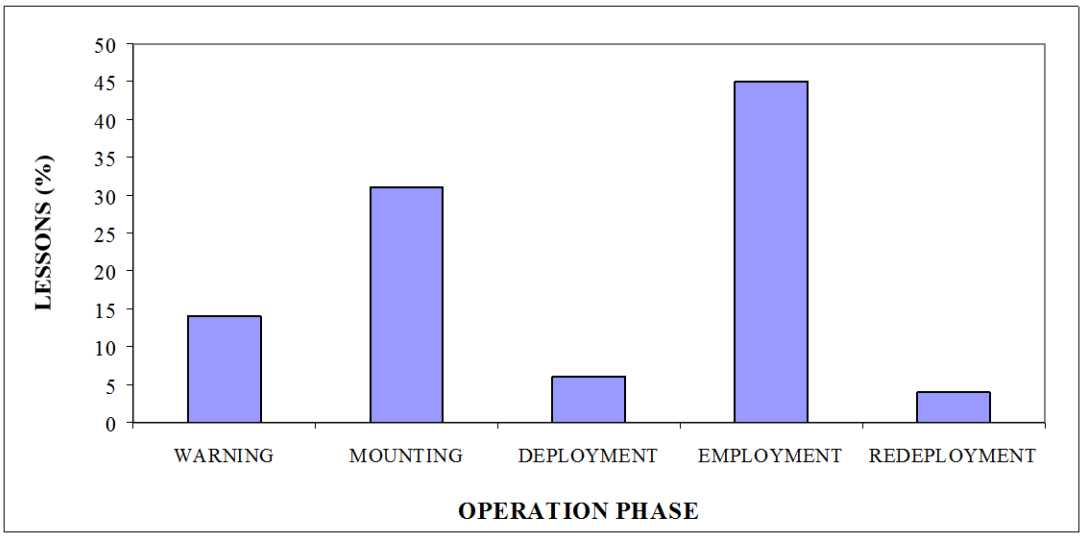

Figure 13: Lessons Learned per Phase for HA Operations.

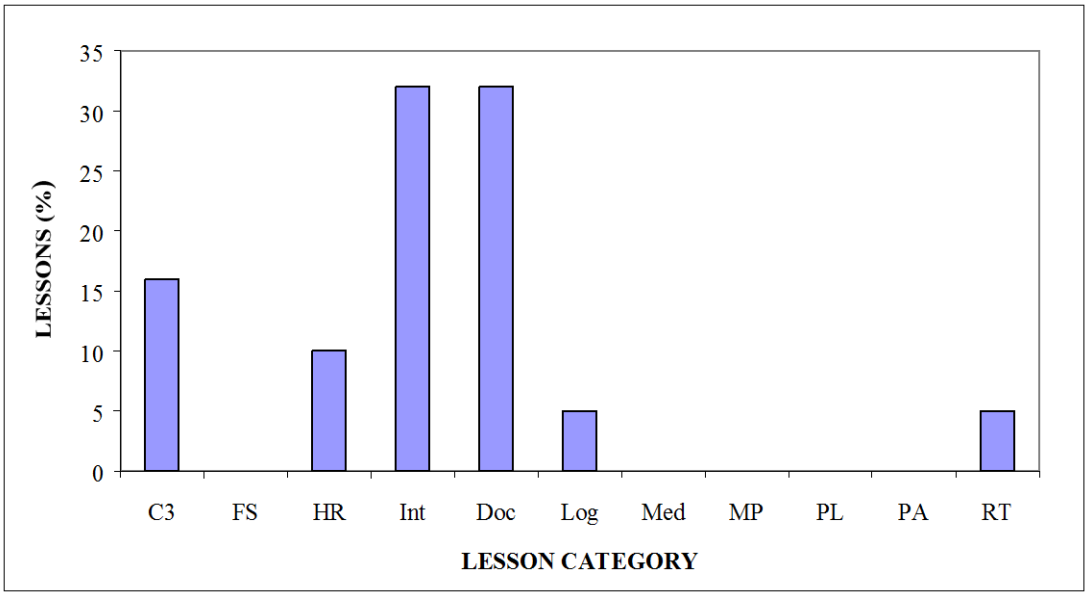

Figure 14: Lessons Learned versus Lesson Categories (Warning Phase).

Figure 15 represents the distribution of the lessons learned during the mounting phase for humanitarian assistance operations. The two critical categories to be noted in this figure are joint doctrine and procedures and readiness and training. These areas should receive greater attention in mounting operations. Command, control, communications and planning represented 10% to 20% of the issues but can be considered to be of secondary importance in terms of lessons learned.

The distribution of lessons learned by lesson category during the employment phase is shown in Figure 16. Basically, the logistics category dominated the lessons learned

comprising more than 45%. In second place there is command, control and communications, human resources and joint doctrine and procedures that should be reviewed for future operations. It is important to note that logistics during the employment phase was clearly considered as critical for both peacekeeping and human assistance operations.

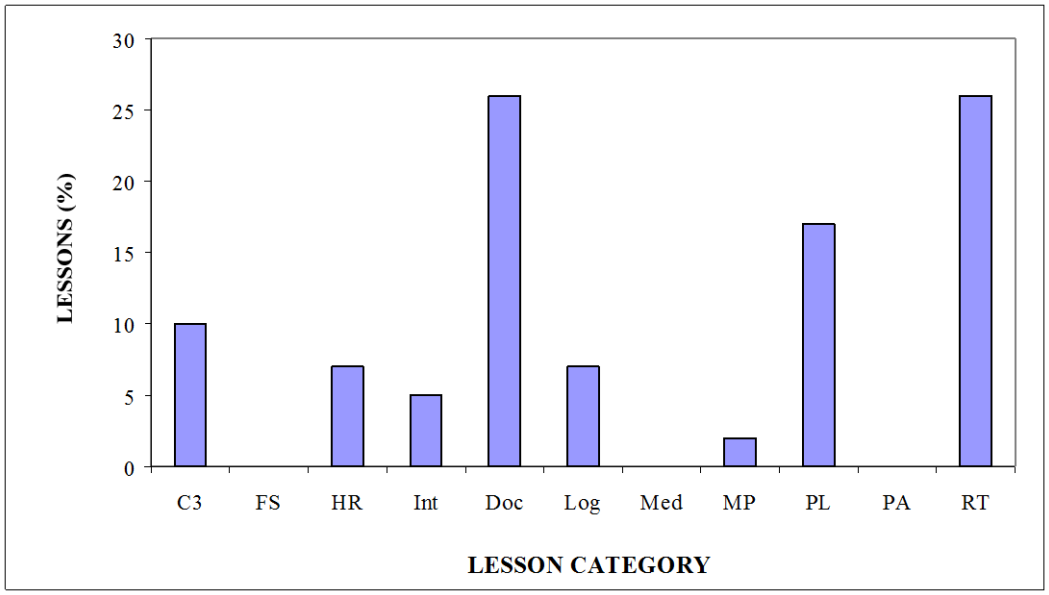

Figure 15: Lessons Learned versus Lesson Categories (Mounting Phase).

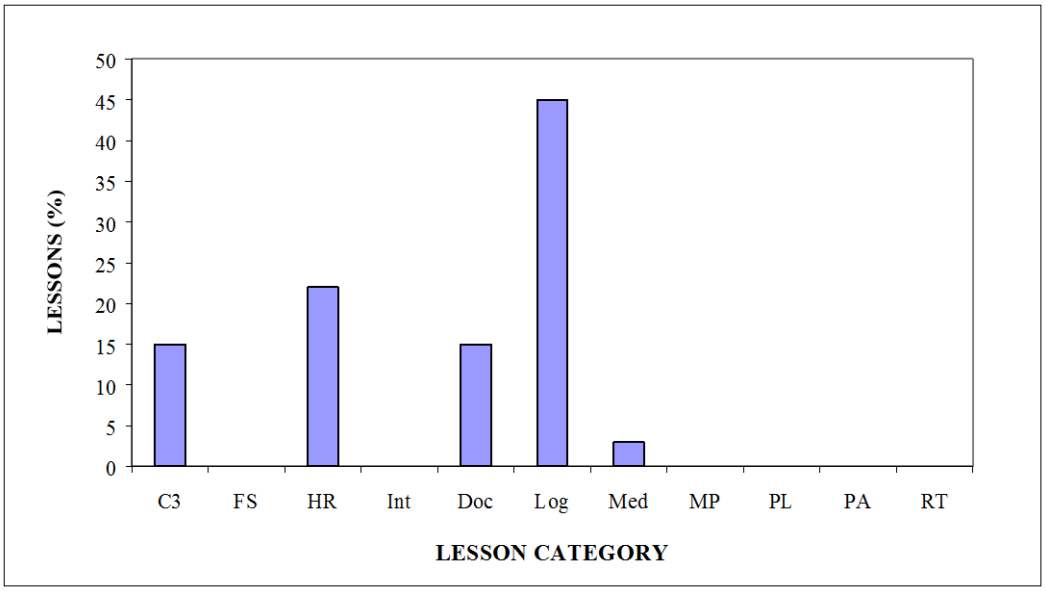

Figure 16: Lessons Learned versus Lesson Categories (Employment Phase).

REGIONAL DISTRIBUTION OF LESSONS LEARNED

The lessons learned data was projected onto the different operation regions as shown by Figure 17. This figure indicates that the majority of the lessons learned relate to AFRICA and

EUROPE. Operations conducted in ASIA and CENTRAL and SOUTH AMERICA have generated a small number of lessons learned. No significant lessons were generated from the Middle East in this database. The operations in Rwanda, Somalia, and in the Balkans can explain the predominance of issues in AFRICA and EUROPE. The operations in the Middle East are established, long-term missions. So, the analysis shows particular attention should to be taken with the operations in AFRICA and EUROPE. However, it should be noted that these were the venues for the largest and most challenging operations for Canada in the last decade.

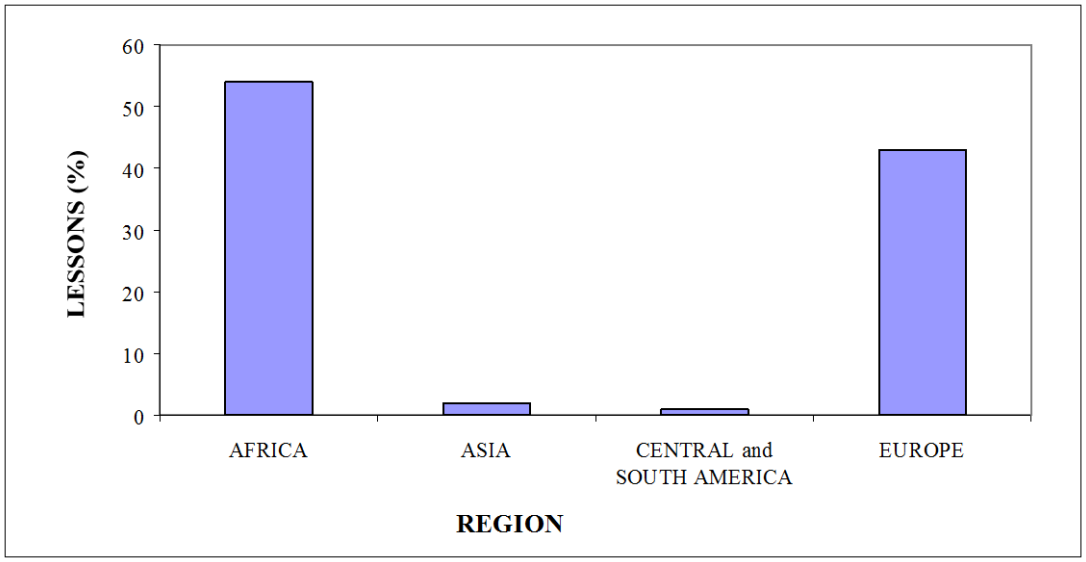

Figure 17: Lessons Learned versus Conflict Regions.

LESSON LEARNED SUMMARY ANALYSIS

The preceding analysis was performed for peacekeeping and humanitarian assistance operations separately. The summary analysis considers the distribution of lessons learned for the critical categories for both the operation types. The lessons learned database indicates that 37% of the lessons were found in the humanitarian assistance operations whereas 60% of the lessons were in peacekeeping operations. (Only 3% of the lessons were in peace enforcement operations and therefore were not included in the analysis).

The temporal distribution of lessons learned from both peacekeeping and humanitarian assistance operations over the decade (1990 to 1999) is plotted in Figure 18. A comparison with Figures 4 and 5 indicates that while operations and numbers of troops deployed are not decreasing, the numbers of lessons learned have gone down since 1996. A statistical analysis would be required in order to draw conclusions on the significance of these trends.

Further on the summary analysis, for each operation type the most important phases were included and for each phase the most important categories were considered. Figure 19 shows the final result. Logistics is the common critical category. This confirms the previous analysis. In addition, for international operations, joint doctrine and procedures, and readiness and training were next in importance. Command, control and communications was the third area for attention across both operation types.

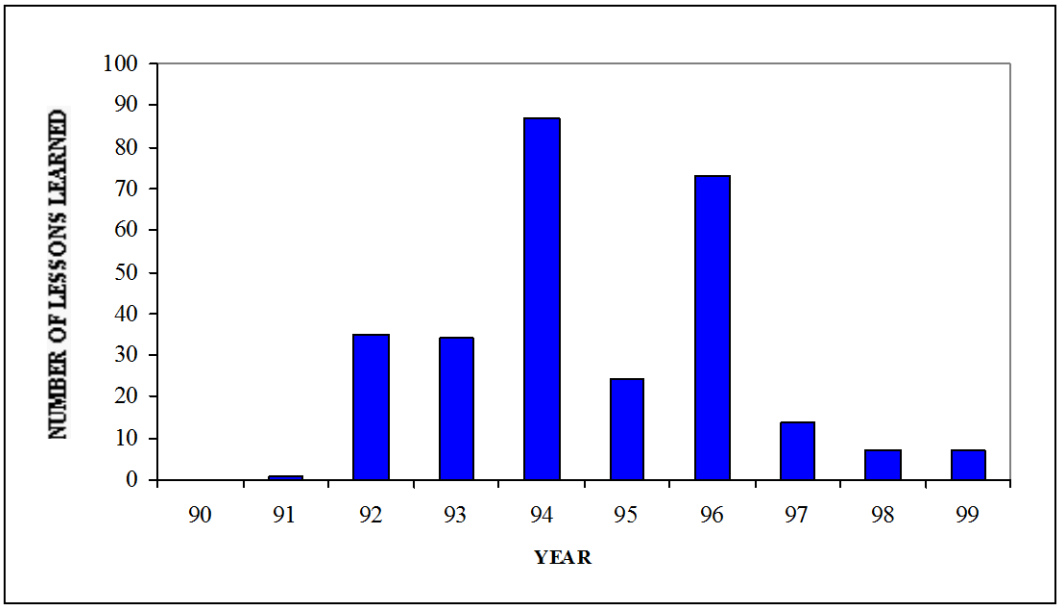

Figure 18: Temporal Distribution of Lessons Learned.

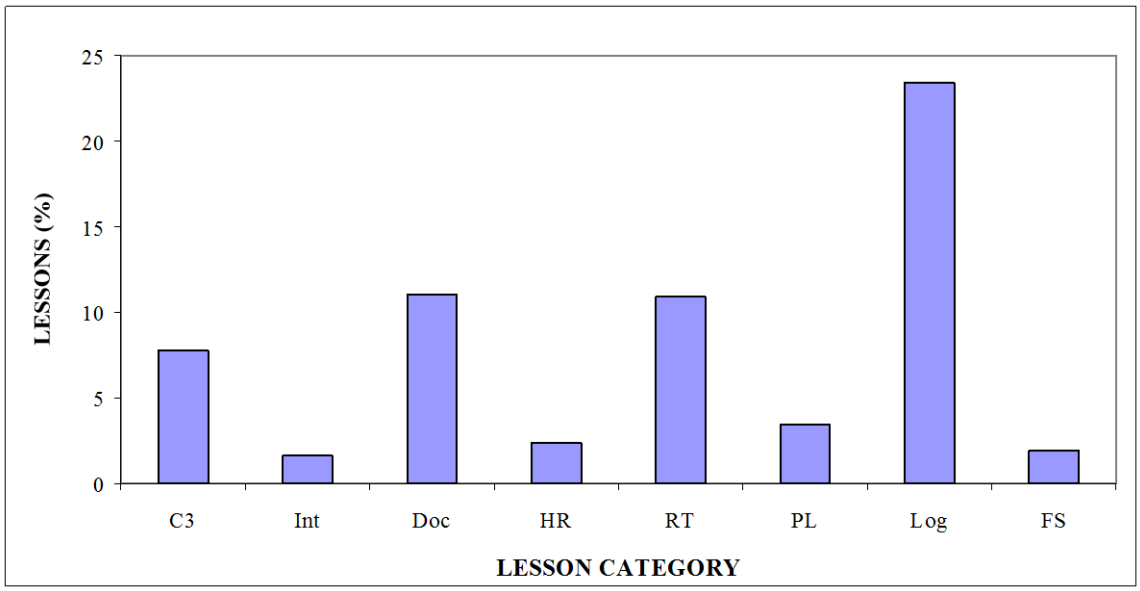

Figure 19: Results of Summary Analysis.

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to attempt to derive trends in lessons learned from a survey of unclassified sources. It was not intended to be exhaustive or precise. For even if a rigorous analysis was to be conducted, each new operation faces new challenges. Distinct trends have been identified in this analysis by categorizing lessons based upon military judgement. The work is therefore considered justified. Certainly more work should be done on this subject. The first step will be to conduct a thorough statistical analysis of the database and compare the findings from a mathematical approach to the results from the judgements based analysis

employed thus far. The second step will be to apply the database structure developed in this work to other sources of lessons learned within the Department of National Defence in Canada.

The recommendations from this analysis to improve future operations are summarized. In peacekeeping operations:

a. Readiness and training are issues in the mounting phase;

b. Command, control and communications, force structure, joint doctrine and procedures, logistics, and planning are issues in the deployment phase; and

c. Logistics is the issue in the employment phase.

In humanitarian assistance operations:

a. Intelligence, joint doctrine and procedures, and command, control and communications are issues in the warning phase;

b. Joint doctrine and procedures, planning, readiness and training are issues in the mounting phase; and

c. Logistics and human resources are issues in the employment phase.

The final conclusion from this study is that in Operational Analysis or Operational Research practice, this type of database activity can be a very efficient tool for tracking issues over long periods of time. Analysts should consider ways and means to begin data collection early in the evolution of processes whether it is lessons learned, incident reports, readiness reporting or other activities integral to the employment of forces in international missions.

ACKNOWLEDGMENTS

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GLOSSARY

MISSIONS

MNF	Multinational Force
IFOR	Implementation Force in Bosnia Herzegovina
SFOR	Stabilization Force in Bosnia Herzegovina
ECMMY	European Community Monitoring Mission in Yugoslavia
MINURSO	UN Mission for the Referendum in the Western Sahara
MOGDR	Military Observer Group in Dominican Republic
ONUSAL	United Nations Observer Mission in El Salvador
UNHCR	United Nations Humanitarian Aid to Rwanda
UNITAF	United Task Force
UNOSOM	United Nations Operation in Somalia
UNPROFOR	United Nations Protection Force
UNSMIH	United Nations Support Mission in Haiti
UNTAC	United Nations Transitional Authority in Cambodia
UNAMIR	United Nations Assistance Mission in Rwanda

DATABASE

C3	Command, Control and Communications
FS	Force Structure
HR	Human Resources and Personal Administration
Int	Intelligence
Doc	Joint Doctrine and Procedures
Log	Logistics
Med	Medical Services
MP	Military and Security
PL	Planning
PA	Political and Public Information
RT	Readiness and Training
PK	Peacekeeping
PE	Peace Enforcement
HA	Humanitarian Assistance

ANNEXES

ANNEX A: STRUCTURE OF THE OPERATIONS DATABASE

The following fields show the structure of the Operations Database:

a. Operation Name: unique identifier for each record, it uses the UN operation name (for UN missions) and Canadian operation name for non-UN missions;
b. Short description: general description of the objective of the operation;
c. Operation Type: there are three operation types:

    1. Humanitarian Assistance (HA);
    2. Peace Enforcement (PE); and
    3. Peacekeeping (PK).

d. Operation Region: five regions were used to classify missions geographically:

    1. Africa;
    2. Asia;
    3. Europe;
    4. Central and South America; and
    5. The Middle East.

e. Country Name: specific geographic location of the operation;
f. Start Date: date of the Canadian contingent deployment;
g. End Date: date of the redeployment of the Canadian contingent;
h. Strength: overall size of the operation (all contributing nations);
i. Canadian Contribution: size of the Canadian contingent;
j. Number of Contributing Nations;
k. UN mission: Yes/No question;
l. Reporting Date: date of the information in the record (since missions may last several years and change in size and contributors); and
m. Reference: source of the data record.

ANNEX B: STRUCTURE OF THE LESSONS LEARNED DATABASE

The structure of the Lessons Learned Database is described by the following fields:

a. Lesson Identification: a number that uniquely identifies the lesson;
b. Operation Name: same field as described for the Operations Database;
c. Lesson Category: an identifier for the lesson according to the type of problem. The following categories were used:

    1. Command, Control and Communications (C3);
    2. Force Structure (FS);
    3. Human Resources and Personnel Administration (HR);
    4. Intelligence (Int);
    5. Joint Doctrine and Procedures (Doc);

6. Logistics (Log);
7. Medical Services (Med);
8. Military and Security (MP);
9. Planning (PL);
10. Political and Public Information (PA); and
11. Readiness and Training (RT).

d. Operation Phase: phase of the operation during which the lesson was identified:

1. Warning;
2. Mounting;
3. Deployment;
4. Employment; and
5. Redeployment.

e. Issue: comments on the main problems occurred during the operation;
f. Recommendation: suggestion of possible solutions;
g. Action Taken: consideration of the problem;
h. Reporting Date: date of the information in the record;
i. Reference: source of the data record;
j. Lessons Importance: classification of the lesson based on relative importance:

1. Very Important;
2. Important;
3. Somewhat Important; and
4. Not Important.