

## Perspectives on the NATO Success Measurement Systems: The Record and the Way Forward

William J. Owen

Logistics Management Institute  
McLean, Virginia, U.S.A.  
email: bowen@lmi.org

Stephan Flemming

Directorate of Quality of Life, National Defence,  
Halifax, Nova Scotia, Canada.  
email: steveflemming@accesswave.ca

*William J. Owen is a research fellow at the Logistics Management Institute (LMI) in McLean, Virginia. He has extensive experience in military operations, intelligence and operations research. His experience includes studies and analysis, computer model development, and the test and evaluation of combat arms, intelligence and command and control systems. His primary focus is on the interoperability of communications and information systems among allied forces and armies. He joined LMI after nine years at the NATO Consultation, Command and Control Agency in The Hague, The Netherlands. While in Europe, he was a principal operational scientist for crisis response studies, decision support aids and knowledge management systems. He instituted a NATO wide, web-based system for collecting and sharing operational information across the NATO commands and has developed methodologies for measuring and tracking national recovery progress in the Balkans. Prior to that, he was a consultant to the J8 (Force Structure, Resources and Assessment Directorate), Joint Chiefs of Staff where he was a key theater analyst for conventional force operations. Mr. Owen is a former career Army officer with command and staff postings in Europe, Asia and the United States. He is a graduate of the Industrial College of the Armed Forces, has a BS in Engineering from the United States Military Academy, a MS in Operations Research from Georgia Institute of Technology and an MA in Education from the University of Oklahoma.*

*Stephan Flemming received his undergraduate training at the University College of Cape Breton, the University of New Brunswick, and the College of New Rochelle in New York. He completed his Master of Arts degree in the sociology of military organization at Carleton in Ottawa and the Post-Graduate Diploma in Military Operations Research at the Royal Military College of Science in the United Kingdom. From 1986 to 1995 Steve was employed as a Research Officer and a Defence Scientist with the Operational Research and Analysis Establishment of the Department of National Defence, Canada. During the period 1995 to 1999 Steve was based in The Hague, Netherlands and directed an independent consulting agency called Martial Research Inc. He provided social scientific consulting services to DND and to NATO, principally through the NATO C3 Agency, SHAPE, and SFOR. He worked extensively in Bosnia-Herzegovina in NATO projects measuring progress toward post-conflict nation-building. Steve returned to Defence Science in Canada in late 1999 and currently conducts research in support of Directorate of Quality of Life initiatives.*

## **ABSTRACT<sup>1</sup>**

Several comprehensive programs of mission effectiveness measurements were developed and employed by NATO following the deployment of multinational ground forces to the Balkans in December 1995. Each effort was driven by similar imperatives, ultimately revolving around the provision of data and findings on trends in the establishment of a secure environment and a sustainable peace. These data were intended to guide force strength and structure decisions as stability was incrementally attained, and finally to signal the moment of withdrawal of NATO forces altogether. This paper examines the record of these assessment strategies from the perspective of first principles. It considers the needs of the key stakeholders; the means by which the successive systems were defined; the methodological foundations; and some pragmatic matters associated with field operating forces. In sum, this review illustrates the essential aspects of the NATO record and the way forward to improved mission effectiveness measurement in peace support operations.

## **INTRODUCTION**

In every military operation, commanders and staffs devise yardsticks by which they measure their success in the conduct of the operation. For conflict situations, measures have been developed and institutionalized over the years. They have been developed and used for almost all operational phases from deployment to conflict to redeployment. They have been planned for all levels of combat from localized, low-intensity operations to the planning for full-scale nuclear exchanges. They have also been developed for many of the traditional combat support and combat service support functions involved with moving and sustaining forces in the field. With practical application in field operations, many of these measures are valued and used repeatedly; some are refined to better meet the commander's requirements; and some are rejected and never used again.

The aim of this paper is to provide some practical perspectives on the issues of measuring success in a peace support operation. The comments and perspectives presented here are based primarily on field experiences and lessons learned from NATO operations in the Balkans over the past ten years. This paper has three principal sections. It is hoped that these perspectives will be useful in furthering the development in this area.

- First, it will provide a brief historical background on the NATO operations in the Balkans. This will set the scene for the assessment work.
- Second, it will provide an overview of the systems that NATO field forces instituted to help assess progress in the Balkans recovery from the civil war.
- Third, these assessment systems will be compared and contrasted in order to illustrate some of the practical difficulties in developing and instituting these type measurement systems.

## **NATO OPERATIONS IN THE BALKANS**

---

<sup>1</sup> The views expressed in this paper are those of the authors and do not necessarily represent those of Logistics Management Institute or the Canadian National Defence Department.

Yugoslavian political reforms in the late 1980s produced some unintended results. The consequences of those reforms have plagued the international community for over a decade and have focused the attention of NATO on this peripheral region of Europe (Figure 1). When a multi-party system was instituted in Yugoslavia, the provincial demands for independence increased. A 1990 rebellion by the Albanian majority in Kosovo was brutally suppressed by the central Serbian government, but the Serbs supported a rebellion by Croats in Croatia. Croatia and Slovenia declared independence in 1991 provoking a full-scale military conflict. The continuing atrocities created large-scale refugee problems throughout Europe. In 1993, Macedonia declared independence and was internationally recognized without any immediate response from the central Belgrade government.



*Figure 1: Yugoslavia — Before and After the Breakup.*

Bosnia-Herzegovina (BiH) was also recognized as an independent state in 1991, but a fierce civil war immediately erupted into involving the Serbs, the Muslims and the Croats. In this civil war, the central Yugoslav military supported the Serbs living in BiH and the Croats were supported by the now independent state of Croatia. After a brutal and extensive ethnic cleansing, most of BiH was under the control of the Serbs and the capital of Sarajevo was surrounded and besieged. International sanctions were imposed on the central Belgrade government. Subsequently, the UN deployed the UN Protection Force (UNPROFOR) to keep humanitarian relief aid flowing.

After a long and politically indecisive period, NATO finally launched limited air strikes around Sarajevo in 1995 to deter further Serb attacks on Sarajevo. These air strikes helped to solidify the ongoing peace negotiations in Dayton, Ohio. The representatives of Croatia, Bosnia-Herzegovina and the Former Republic of Yugoslavia finally signed the General Framework for Peace (GFAP) on 14 December 1995. On 15 December, the UN Security Council adopted UN Security Council Resolution 1031, transferring authority for operations in BiH from the UN and UNPROFOR to NATO. This resolution also gave NATO a mandate to implement the military aspects of the negotiated peace agreement.

The cease-fire was fragile when NATO's 60,000 strong Implementation Force (IFOR) deployed to BiH in December 1995. This was the first major deployment in NATO's history and it was their first peacekeeping operation. IFOR was to oversee and implement the military aspects of the General Framework Agreement for Peace. The land component of the IFOR was the Allied Command Europe's Rapid Reaction Corps (ARRC). Their mission was: "... to assume command of Bosnia-Herzegovina and complete the military tasks of the Peace Agreement as defined by the North Atlantic Council (NAC)..."<sup>A</sup> Under IFOR, heavy weapons and belligerent forces were demobilized, their forces were separated along the designated inter-entity boundary line and zone of separation, and territory was transferred as directed in the agreement. IFOR engineers assisted in reopening many of the roads, bridges and lines of communications. IFOR also worked closely with many of the international organizations (IO)<sup>2</sup> in BiH to assist in the civil recovery of the country. The situation in BiH improved considerably during IFOR's year-long operation.

The Stabilization Force (SFOR) arrived in November 1996 to replace IFOR. SFOR's role was to continue the NATO peacekeeping operation, but with a new focus — stabilization of the situation instead of implementation of the military aspects of the GFAP. The mission of the SFOR was "to deter the resumption of hostilities, consolidate IFOR's achievements, provide emergency support to UN forces in Eastern Slavonia, stabilize the situation so that local and national authorities and other international organizations could work, and provide support to other agencies as forces were available." Due to the improved situation in the theater, SFOR's personnel strength was maintained at about 35,000 — much reduced from the IFOR strength.

The SFOR mission was intended to end by June 1998, but its mandate was subsequently extended based by the North Atlantic Council (NAC) directives and UN Security Council resolutions. SFOR continued to help create the conditions needed for the implementation of the civil aspects of the peace agreement, but the size of this force was further reduced to 23,000 personnel.<sup>B</sup> The NAC required six-month reviews of the Balkans situation in order to reassess the security situation and the progress toward civil recovery. There were some positive and encouraging signs under SFOR in many of the areas being observed. For instance, the rate of refugee returns accelerated in 1999 and 2000 and there were more municipal elections in which the voters rejected the nationalist and radical ethnic parties.

Despite these encouraging signs, there was continuing dissatisfaction with the pace of improvements in the civil sector, especially in the areas of economic reform, return of displaced persons and democratically accountable institutions.<sup>C</sup> The International Crisis Group Balkans Report No. 80 addressed each of the Annexes of the GFAP and concluded, "... the international community has struggled to implement the civilian aspects... and to change the underlying structures and problems that contributed to the war. Programs to restructure the financial system, payments bureaux, judiciary, media, police, armed forces, customs, tax policies, investment laws, electoral system, privatize state owned assets and assist refugee return are all under way and... in some instances progress is measured in geologic time."<sup>D</sup>

To further compound NATO's operations in the Balkans, open conflict between Serbian forces and Kosovar Albanian forces in 1998 resulted in the deaths of over 1,500 Kosovar

---

<sup>2</sup> These included the Office of the High Representative (OHR), the International Police Task Force (IPTF), the International Committee of the Red Cross (ICRC), the Organization for Security and Cooperation in Europe (OSCE) and the International Criminal Tribunal for the former Yugoslavia (ICTY).

Albanians and forced 400,000 people from their homes. The international community became gravely concerned about the escalating conflict, its humanitarian consequences and the risk of it spreading to other countries. Diplomatic efforts aimed at peacefully resolving the crisis were disregarded in Kosovo. The ethnic cleansing in Kosovo created masses of displaced people moving into neighboring Albania. NATO eventually deployed the Albanian Force (AFOR) to Albania to assist in the humanitarian assistance to the refugees.

UN Security Council Resolution 1199 called for a cease-fire by both parties to the conflict and limits were set on the number of Serbian forces in Kosovo. It was also agreed the Organization for Security and Cooperation in Europe (OSCE) would establish a Kosovo Verification Mission (KVM) to observe compliance on the ground and that NATO would establish an aerial surveillance mission. The establishment of the two missions was endorsed in UN Security Council Resolution 1203. Despite those steps, the situation in Kosovo flared up again at the beginning of 1999 following a number of provocative acts on both sides and by the Serbian Army's use of excessive and disproportionate force. On 20 March 1999, the OSCE KVM was withdrawn from the region because they could no longer continue to fulfill their task.

On 23 March 1999, NATO ordered air strikes against Serb forces in Kosovo — thus starting Operation Allied Force. These strikes continued for 72 days. Then, after consultations with the NAC and confirmation that the Yugoslav forces began withdrawing from Kosovo, NATO suspended the air operations. The withdrawal was to be in accordance with the Military-Technical Agreement (MTA) concluded between NATO and the Federal Republic of Yugoslavia on the evening of 9 June. NATO's Kosovo Force (KFOR) entered Kosovo province on 12 June to supervise the MTA. By 20 June 1999, the Serb withdrawal was complete and KFOR had accomplished their initial deployment tasks.<sup>E</sup> At its full strength, KFOR comprised some 50,000 personnel with all 19 NATO members and 20 non-NATO countries participating.

## **THE NATO MEASUREMENT SYSTEMS**

Operations analysts have been part of each of the forces. Analysts have attempted to assist their commanders in measurement systems that would provide the needed information to judge the recovery progress in these peace support operations. Three separate systems were developed and used by NATO forces in the Balkans. The first was developed by IFOR, the second and third were developed by SFOR.

### **THE IMPLEMENTATION FORCE, IFOR**

The Operational Analysis Branch (OAB) of the ARRC staff conceived the first system. One of their primary tasks was the development and implementation of a system to measure the return to normality in BiH. This assessment was to improve the Commander's perception of the progress the command was making in their mission accomplishment. The requirement was for an analytical method to assess the changes in the country. The objectives were to provide a strategic "measure of success," to indicate potential difficulties before they become problems and to provide IFOR commanders with objective information.<sup>F</sup>

The OAB developed a methodology using troop-collected data that was qualitatively scored by theatre-experienced personnel to develop indices, or “normality indicators.” These indicators provided information concerning urban food and goods outlets; availability and presence of key goods and key groceries; food prices and their stability; urban traffic levels; and occupancy and use of private housing, community buildings and farm buildings. An example of one of the key indicators is shown in Figure 2. Many of the results were presented using a traffic light display to indicate problems, cautions and satisfactory conditions. Wherever possible, geographic displays were presented to associate conditions with localities. The OAB used their results in frequent briefings to the commander, his staff, subordinate units, representatives of the IOs and the press.

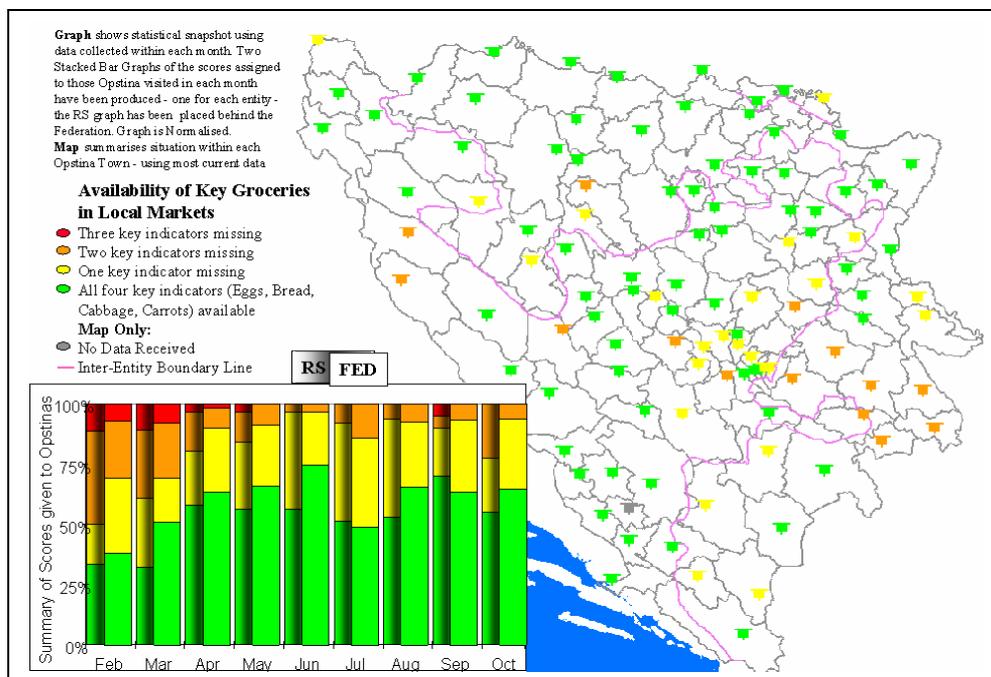


Figure 2: Example Results, Availability of Key Groceries.

By late 1996, the normality indicators were showing considerable stability. Food and goods outlets were available; and prices were somewhat stable; traffic levels were increasing; and urban occupancy levels were higher than earlier in the year. The measurement system was clearly focused on availability of food, shelter and the basics of survival. These needs were apparently being largely satisfied by the Fall of 1996 since the IFOR assessments were nearly all turning green on the traffic light indicators used in presenting the results of the data scoring and analysis.

### STABILIZATION FORCE, SFOR

In late 1996, the incoming SFOR Commander was briefed on the results of the IFOR normality indicators. He directed his staff analysts to review the work and develop a system that would capitalize on what had been learned thus far. The SFOR Assessment Cell concluded that the scope of the “normality indicators” needed to be expanded beyond that used previously. They wanted to measure the satisfaction of the people’s needs.

Needs and motivations have been studied before — on a personal, work and an environmental level. After considering several approaches, SFOR selected Abraham Maslow's "Hierarchy of Needs" Theory<sup>3</sup> as a paradigm for this work. Maslow set up a hierarchy of five levels of basic needs. From lowest to highest, these needs are physiological, safety, belonging, esteem and self-actualization.<sup>3</sup> This paradigm was used to develop a hierarchy of measures that could be used to measure progress in the specific areas shown in Table 1. There were three top-level measures<sup>4</sup> and 25 basic evaluation areas in the SFOR expansion. Each of these was related to the levels of Maslow's hierarchy of needs. Unfortunately, SFOR was unable to develop or agree on any methodology to roll up the basic MOE to understand the recovery process judged by the high level MOE.

<b>Security</b>	<b>Quality of Life</b>	<b>Democratization</b>
Freedom of Movement	Employment	Property Rights
Inter Entity Boundary Line	Education	Media Freedom
Police Behavior	Electricity and Gas Systems	Arms Control
Displaced Persons/Returnees (DPRE)	Sewer and Solid Waste Systems	Transition of Power
House Destruction	Reconstruction Projects	Institutions: National
Mine Area Clearance	DPRE Returns	Institutions: Entities
Destruction of Military Weapons	Water Systems	Institutions: Cantons
Confiscation of Police Weapons	Health Care	Institutions: Municipal
		Government Support DPRE

Table 1: SFOR Measures of Effectiveness Areas.<sup>11</sup>

SFOR developed a data collection plan that included the SFOR staff and many of the NGOs and IOs operating in BiH. There were over 400 organizations operating within BiH in the mid-1990's, but only a few of them were targeted as data sources<sup>5</sup>. Primarily, only the organizations that had widespread presence in BiH were selected as possible data sources. Nevertheless, SFOR was not always successful in establishing good and cooperative relations with all of these selected organizations.

Specific scoring criteria were established for each of the MOE and assessments of the measures were conducted monthly. Theatre-experienced personnel qualitatively scored the

<sup>3</sup> Maslow's basic needs are described as (a) Physiological. These are biological needs consisting of food, oxygen, water and shelter. These are the strongest and most basic of all the needs. (b) Safety. When the physiological needs are satisfied and are no longer controlling peoples' thoughts and behaviors, the need for safety can become active. Adults have little awareness of their safety needs except in times of emergency or periods of disorganization in the social structure. (c) Needs for love, affection and belonging. People always seek to overcome the feelings of loneliness and alienation. This involves developing the sense of belonging to a group. (d) Needs for esteem involves both self-esteem and the esteem a person gets from others. Humans have a need for a stable, firmly based, high level of self-respect and respect from others. (e) Needs for self-actualization describes a person's need to be and do that which the person was born for.

<sup>4</sup> The top level MOE were: security, quality of life and democratization. Each of these had one or more supporting basic MOE. Return of the people was initially considered as a top level MOE, but was subsequently deleted.

<sup>5</sup> These included the Office of the High Representative (OHR), UN High Commissioner for Refugees (UNHCR), UN Head of Civil Affairs (UNHCA), UN Mission in Bosnia-Herzegovina (UNMIBH), UN Mine Action Center (MAC), International Management Group (IMG), International Police Task Force (IPTF), International Committee of the Red Cross (ICRC), European Community Monitoring Mission (ECMM), Organization for Security and Co-operation in Europe (OSCE) and World Bank (WB).

collected data to produce “measures of effectiveness” for each specific area. These updates and the analytical follow up work presented snapshots of the conditions for each specific MOE. These snapshots represented the assessed condition of a MOE at a particular point in time given the information available at that time. These represented temporal conditions; thus, they were referred to as “snapshots.” With time, these snapshots were used for more comprehensive cluster or trend analyses. Figure 3 illustrates the results of one of the later reports.

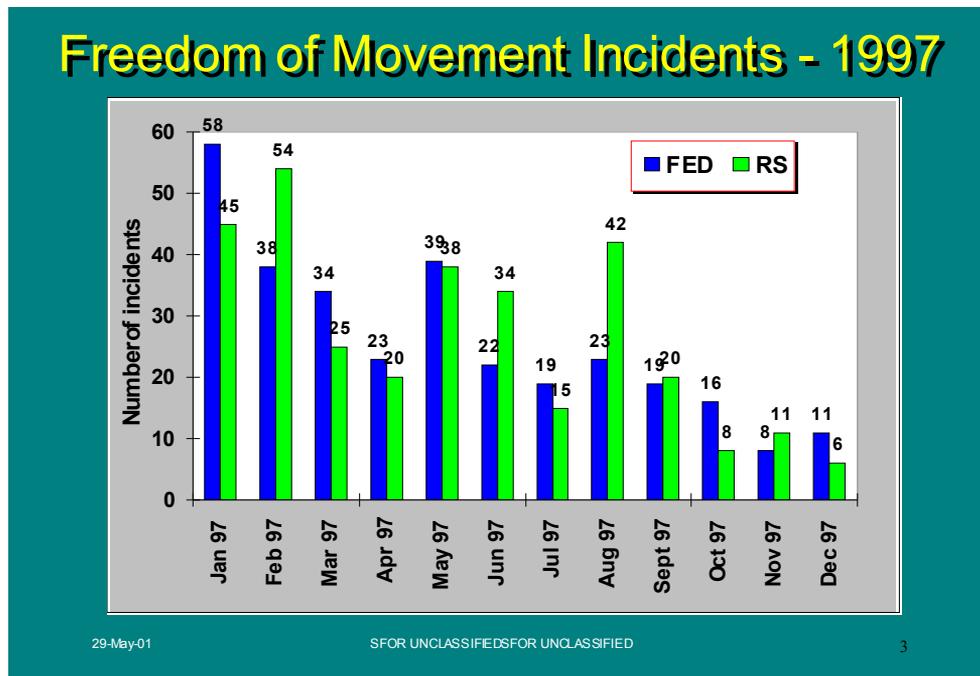


Figure 3: SFOR Trend Results on Freedom of Movement Incidents.<sup>1</sup>

Assessments were presented to the commander and his staff on a regular basis starting in early 1997 and continued through the late spring of 1998. The results were also regularly presented to the IOs on both a formal and informal level. The briefings to the initial data providers also served as a “sanity check” on the analysis results and conclusions. These MOE assessments provided the staff and the IOs with the rough indicators of progress.

#### THE STABILIZATION FORCE CONTINUED, SFOR+. <sup>6</sup>

The summer of 1998 ushered in the next variation on success measurement in the Balkans. In June 1998, the NAC agreed on the extension of the SFOR mission and they decreed that a measurement of progress was necessary. The development of a Transition Strategy and Six-Month Review (SMR) for the NATO Stabilization Force+ followed. SFOR+, the Supreme Headquarters Allied Powers Europe (SHAPE) and the NATO staff would carry out these reviews for the NAC. These reviews were to be based on a series of approved criteria, objectives and benchmarks for all military and civil security aspects of the mission. Each criterion would have one or more objectives and each objective would have one or more

<sup>6</sup> SFOR+ will be used to denote the SFOR under the extended mission. This is just to differentiate from the early to later SFOR assessment systems.

benchmarks included. The aim of the SMR was to provide a comprehensive assessment of the status of progress toward stability.

The NAC identified the ten critical dimensions for progress measurements encompassing the security situation and civil implementation aspects of the GFAP. Each criterion had an associated, desired end-state. The ten criteria and desired end-states are shown in Table 2. This was the first assessment system in which the desired end-state was clearly stated by the political arm of the NATO Alliance.

Based on the objectives and specific progress benchmarks, questionnaires were developed and administered to SFOR+ staff officers tasked with conducting the progress measurement in the areas of their expertise.<sup>7</sup> Numerical scores were employed on a 1 to 5 scale, with a score of 1 representing no progress since the cessation of hostilities and 5 meaning that the desired end-state has been achieved. In addition, each score was qualitatively justified in detail.

An example of the results on the economic development criteria is provided in Figure 4. The overall criteria score for Oct 1998 (i.e., the 1<sup>st</sup> SMR assessment date) and Apr 1999 (the 2<sup>nd</sup> SMR assessment date) focuses on the progress (or lack of progress) made in achieving the end-state at six-month intervals. The desired end-state is a score of five. For this example, there was some moderate improvement over the previous six-month period. The qualitative justification for this improvement stated,

*“During the assessment period there have been positive developments mainly in the areas of currency acceptance, customs administration, banking, telecommunications and the fight against crime and corruption. This is reflected in the change in score from 1.85 to 2.56. However, economic growth has not been sustainable and is still reliant on International Organizations and donor-supported programs and projects. It will be at least 5 years before sustainable economic growth is achieved.”<sup>8</sup>*

Figure 5 shows the assessment of economic security at the municipality level. The expert groups at each of the multinational divisions scored each municipality based on established criteria.<sup>8</sup> None of the municipalities was assessed as ‘Very Strong’ or ‘Strong.’ Only a few clusters of ‘Very Weak’ municipalities were identified and these were scattered throughout the country. Most of the country was assessed as Weak (54%) or Medium (38%). The average municipality score during this analysis was 2.4.

---

<sup>7</sup> SFOR officers were also provided extensive information packets about their specific functional areas by supporting analysts.

<sup>8</sup> For this item, the criteria stated: In a municipality with strong or stable economic security (a score of 5), the basic needs of citizens are met in a sustainable manner. Food and shelter are widely available, as are essential utilities (water and energy). Legal and other barriers to commerce, industry and trade are removed. Employment is available to most that wish to work and this employment is offered in honest enterprises. The economic climate honors integrity in business activity and abhors corruption. Average income is sufficient to reduce the grip of organized crime and the attractiveness of conflict. People and goods may move freely along all routes and de-mining is a success. There are indications that the former agricultural economy and the harvest seasons that made many men available for conflict during particular periods, is being replaced by a more technologically advanced industrial and commercial economy.

Criteria	
Brcko	Environment
Return of displaced persons and refugees (DPRE)	on a self-
Media reform	standards and
Arrest of persons indicted for crimes (PII)	nity in the
Public security law enforcement	pliance with t in which multi-ethnic
Illegal ins organized and corruption	venue and legitimate
Democratic governance	all levels
Military stability	A self-sustaining continuing cease-fire supported by transparent mechanisms for military-to-military cooperation
Economic development	To consolidate free-market reforms, including a transparent privatization that precludes political influence in key economic sectors. To guarantee free movement of goods, services and capital across BiH with formal barriers to inter-entity commerce eliminated
Support to international organizations	International organizations effectively carry out their implementation efforts without military support

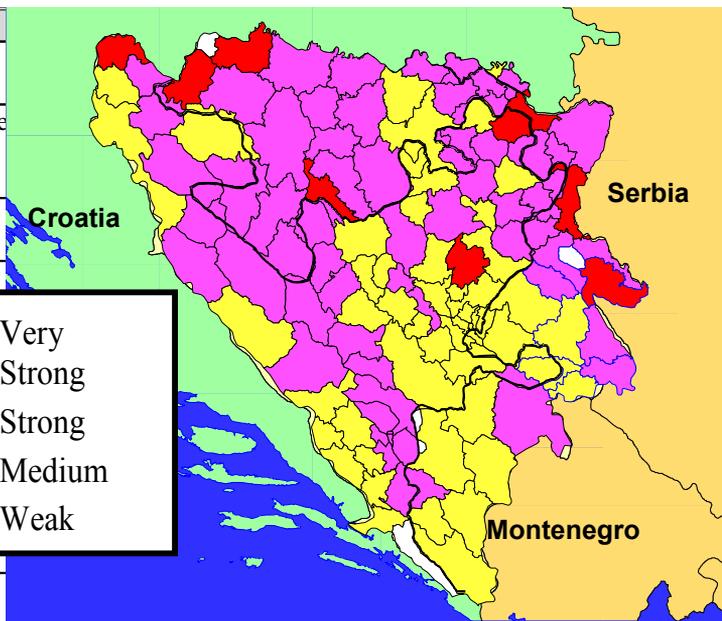


Table 2: SMR, Criteria and Desired End-States.

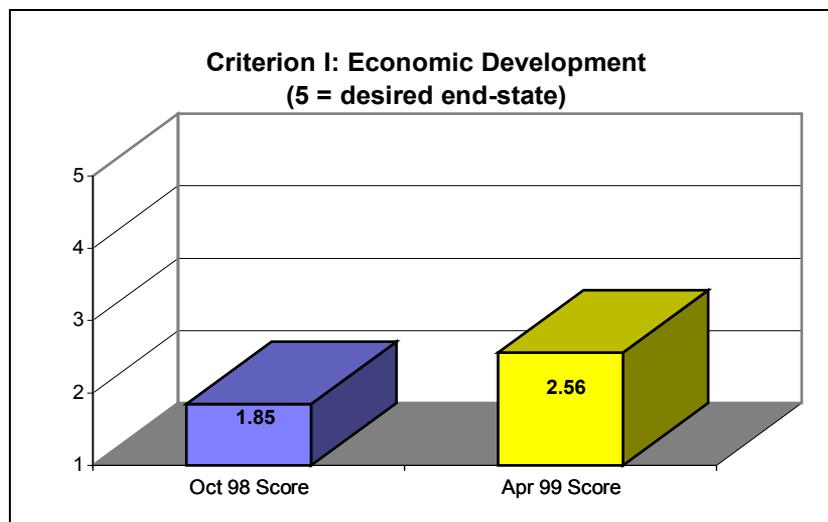
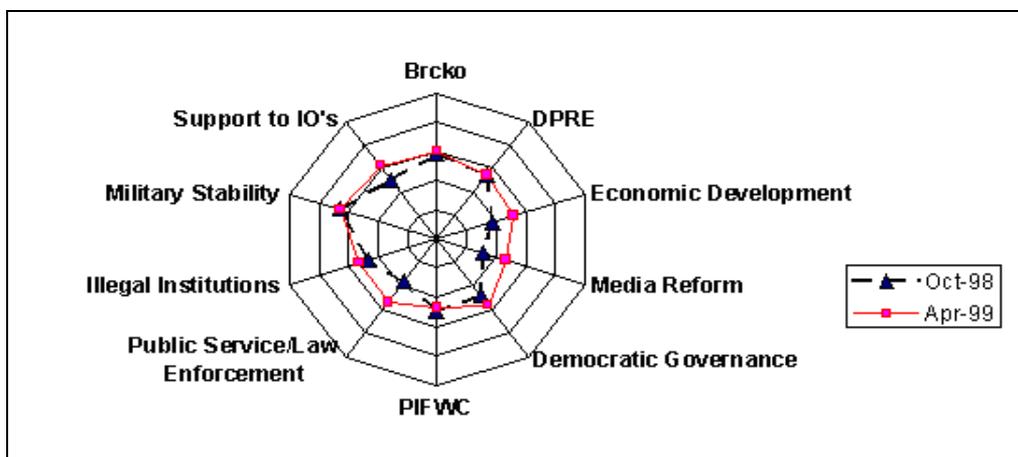


Figure 4: Example Criterion Scores, Economic Development.

*Figure 5: SMR Results, Economic Security by Municipality (April, 1999).*

Figure 6 illustrates the time dependent changes in the criteria areas for two of the SMR cycles. Displays such as this captured the change in each criteria score from one SMR period to the next and provided an overall evaluation of the progress. The combined scores and qualitative assessments were integrated with the current intelligence assessment of the security and were provided as an integrated report to SHAPE and the NAC every six months.



*Figure 6: SMR Results, Comparisons of Criteria Scores.*

### SOME PERSPECTIVES ON THE MEASUREMENT SYSTEMS

The measurement systems developed by NATO forces all had similar purposes: to assist their commanders and staffs in assessing the progress the civil community was making in recovering from the recent civil war. The military mission was to secure and stabilize the situation in the Balkans so the civil agencies could institute the programs that would lead to full recovery and national reintegration into the community of nations. It was only through this long-term stability that the military would be able to declare its mission a success and be able to reduce or eliminate its forces. The NATO force structure dilemma was in judging when the recovery and security situation would permit force reductions or force redeployments. Unfortunately, this was not just a problem of military judgment; it was an international political issue that required special attention.

The need for a better understanding of measures and metrics for peace support operations (PSO) is acknowledged. Experienced researchers have analyzed the measurement methods used by in the Balkans operations. Stephan Flemming<sup>K</sup> provided some insights into the processes and their effects on command relationships in PSOs; Nicholas Lambert<sup>L</sup> analyzed the various processes to highlight the system drivers and the trends; Adam Siegel<sup>M</sup> reviewed the IFOR and SFOR work with the intent of broadening and improving the systems; and Suzanne Griffin<sup>N</sup> analyzed these frontline systems to develop a generic approach. Furthermore, the Cornwallis VI Workshop focused specifically on the analysis, evaluation and assessment in PSOs and paid particular attention to how we measure success.<sup>O</sup> In the following paragraphs, the NATO measurement systems will be examined to highlight some first order principles about measures of success. The three measurement systems described above were compared and contrasted in order to highlight their differences. A summary of these comparisons is shown in Table 3. These comparisons were used in developing several perspectives on the NATO measurement systems that were employed in the Balkans.

	<b>IFOR</b>	<b>SFOR</b>	<b>SFOR+</b>
<b>Name</b>	<b>Normality Indicators</b>	<b>Measures of Effectiveness</b>	<b>Six Month Review</b>
<b>Purpose</b>	<b>Measure of success, highlight difficulties</b>	<b>Expand Normality Indicators to capture higher level needs</b>	<b>Measure Progress, comprehensive assessment</b>
<b>For use at the</b>	<b>Military Command level</b>	<b>Military Command level</b>	<b>NATO political level</b>
<b>Scope</b>	<b>Basic Needs</b>	<b>Community &gt; Nation</b>	<b>Nation</b>
<b>End State</b>	<b>No</b>	<b>No</b>	<b>Yes</b>
<b>Assessment Level</b>	<b>Tactical</b>	<b>Operational</b>	<b>Operational &gt; Strategic</b>
<b>Reporting Frequency</b>	<b>Daily &gt; Weekly</b>	<b>4-6 Weeks</b>	<b>6 Months</b>
<b>Data Sources</b>	<b>HQ Info, Patrols</b>	<b>HQ Info, IO, NGO</b>	<b>HQ Info, IO, NGO</b>
<b>Data Collection</b>	<b>Troops</b>	<b>Analysts, Liaison Off</b>	<b>Analysts, Liaison Off</b>
<b>Contact with Locals</b>	<b>Yes</b>	<b>No</b>	<b>No</b>
<b>Data Storage</b>	<b>Database</b>	<b>Database</b>	<b>Database</b>
<b>Data Analysis</b>	<b>Staff and Analysts</b>	<b>Staff and Analysts</b>	<b>Staff and Analysts</b>
<b>Data Scoring</b>	<b>Analysts</b>	<b>Analysts</b>	<b>Staff and Analysts</b>
<b>Reported by Region</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<b>Force Structure Info</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Life Cycle</b>	<b>12 months</b>	<b>12-18 months</b>	<b>12-18 months</b>
<b>Dynamic system</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Supervision</b>	<b>Commander</b>	<b>Chief of Staff &gt; CJ3</b>	<b>CJ3 &gt; CJ5</b>
<b>Integrated View</b>	<b>Yes</b>	<b>Yes, unsuccessful</b>	<b>Yes, not attempted</b>

*Table 3: Comparisons of the three NATO Measurement Systems.*

## PURPOSE OF THE MEASUREMENT SYSTEM

It always helps when you have a purpose in starting an effort. IFOR and SFOR both had very clear aims when they embarked on these measurement systems. IFOR was to assess the changes in the country and measure the return to normality. Initially, SFOR was to expand on the IFOR work and measure the peoples' satisfaction on a number of levels. These first two systems were driven by the commander's desires to have a good tracking on mission accomplishment and the force structure needed to enforce the terms of the GFAP. The commanders wanted a good indicator of stability so they could reduce the force size and send units back to their home stations.

The follow-on SFOR+ forces were to measure the progress based on the criteria established by the NAC. The political aspects of the peace process — not the military aspects, drove the needs and establishment of this measurement system. In this case, the military were merely stabilizing the situation and reporting civil-military progress. The purpose was not directly linked to the force posture, but the results could be used to influence the force structure.

There is some similarity between the NAC driven criteria used in the Six-Month-Review and the hierarchy of measures used by SFOR in their MOE. The upper level MOE were all directly relatable to supporting measures and the 10 key dimensions prescribed by the NAC also depended on a very detailed hierarchy of measures. However, the SMR was based on a method of rolling up these indicators into an index that could be compared to an established end-state.

*There must be clear political aims and a desired end-state driving the requirements to measure success in a PSO.*

## THE PARTICIPANTS AND THE ULTIMATE CONSUMER

Everyone brings an agenda to the measurement of success in a PSO. The diplomats, the commanders and staff responsible for executing the operation, the analysts who produce the measures, the IO's and even the data providers all have different interests and perspectives on what success is. To the command and staff, it is fulfilling their military mandate. For the IO's, it may be the delivery of humanitarian aid or the reconstruction of shelters for the displaced persons. Even the data providers had distinct interests in defining success. Some actually managed the data carefully enough to show greater requirements for support to their organizations and their type support.

At some level, the ultimate consumer of the information must be clearly identified. For IFOR and early SFOR, the commander was the task setter and the ultimate consumer of the information. His staff analysts developed methods, executed them and reported the results internally within the headquarters. At one point in SFOR, the results were not releasable outside the headquarters. With experience and tact, the “sanitized results” were later released to other “interested” parties such as key individuals in the IOs.

However, for the SFOR+ system of SMRs, the ultimate information consumer was the NAC. In addition to establishing the 10 most critical areas to them, the NAC also provided the vision for the effort by establishing the desired end-state. This element was missing in both of the previous measurement attempts.

Unfortunately, the lower level system of producing the measures for the SMR was subsumed by the staff review process at SHAPE and then at NATO headquarters. Furthermore, the SMR measures were only part of the reports going to the NAC. The intelligence community and the political staffs at these headquarters also provided significant input to the final report going to the NAC.

*Identify the ultimate consumer of the measures of success.*

*Enlist the ultimate consumer in developing the framework and guiding the vision for the work.*

There was no unanimity concerning any of these systems within NATO. Each of the NATO forces used these assessment systems for their own purposes and the results were not willingly shared outside the military, and in some cases not very well within the military forces. The Multinational Divisions in SFOR generally did not receive results of these analyses. Either because of the infrequency of SFOR headquarters reports to them, or for their own purposes, several participating nations did not or would not participate in the NATO developed methods. Several developed and instituted their own measurement systems. Without the consistent and committed support from the seniors at each of the military headquarters, the support for data collection, reporting and analysis lagged over a period of months.

*Senior management and the ultimate information consumer must provide direction, be involved and be committed to the measurement of success.*

*Supporting players in the measurement of success process must also be committed to the effort.*

The full support by the commanders and staff at the NATO headquarters in the Balkans also had a downside. They wanted to see progress and movement toward success – and they wanted to see it on their tour of duty. On occasion, there was command pressure to move the numbers toward clear and recognizable milestones to recovery. This may have been for psychological gratification, military pride or more mundane reasons such as force size reductions.

Each of the NATO measurement systems had a life span of 12 to 18 months. IFOR developed and used their “normality indicators” for only a year. SFOR developed and used their MOE for only 18 months. The SFOR+ SMR measurement system was used in 6-month reporting cycles for 18 months and then fell into disuse. All had a short life cycle explainable by several key factors.

- The commanders normally did not last for the full life cycle of the measurement system. A system developed under one commander did not always fit the vision or needs of the new commander; thus the old system fell out of favor and a new one was needed.
- The military personnel tour policies instituted by the NATO were not supportive. IFOR had a one-year tour; SFOR started with 6-month tours, but later reverted to 4-month tours of duty. By the time a staff officer arrived, was trained and ready to participate in the measurement system, it was time for him to rotate back to his nation. Some key staff officers in the SMR process arrived right after a review and departed before the next one. Continuity in this system was maintained through civilian analysts who deployed repetitively to the Balkans. It is difficult or impossible to gain and maintain support for a success measurement system with personnel policies such as these.

- Each of the commanders had the impression that the measurement systems would provide valuable input to their difficult force structure issues. Unfortunately, these hopes were not realized.
- The ‘not invented here’ or alternately, ‘not on my watch’ attitudes were alive and well on the various NATO staffs during their deployments to the Balkans. These attitudes stifled some of the support and the creative work that was possible in the measurement areas.
- Which staff office is producing the measures of success is also a key to continuing support. The analysis team producing the measures of success needs to be directed by and supported by one of the key staff officers – probably at the Chief of Staff level.

*Maintaining support from the military commanders and staff for the measurement of success is difficult.*

### THE NAME OF THE MEASUREMENT SYSTEM

The terms used to describe the NATO measurement systems were not descriptive. Normality indicators, measures of effectiveness and six-month reviews all present some grounds for confusion. Misunderstandings and confusion are a result of ‘what they are called’ as opposed to ‘what they are supposed to do.’ This is especially compounded when you try to translate the name into one of the 12 or more languages spoken in the Balkans. “Normality indicators” leads one to believe that there was an attempt to indicate when the civil situation became normal. What is normal in the Balkans? On the positive side, however, the title indicator provides the impression that there was not total certainty – there was still some unknown involved in the measurement.

Moreover, what effectiveness does a SFOR “MOE” measure? Is there really effectiveness? This name leads one to believe that there is some level of effect caused by the military impact on civil situation and that it can be measured. However, this name was easily accepted by most military since they had seen and used MOE previously. There was a comfort level in using this terminology to describe the process.

The Six-Month Review is probably the least confusing name, but also the least descriptive. Several of the SFOR+ staff were concerned that the name did not imply any measurement and they started calling them “benchmarks,” one of the components of the measurement system; and the name stuck. Unfortunately, the SMR also did not have any relationship to the ‘benchmarking’ process used in many businesses. Moreover, none of these terms conveys any special meaning to the process of trying to measure success.

IFOR’s use of the term “indicator,” was probably the most appropriate term. The area of a sustainable community development has been quite well developed. Maureen Hart in her treatment of local and regional community developments described an indicator as something that helps you understand where you are, the way you are going, and how far you are from where you want to be.<sup>p</sup>

It is difficult attaching a name to the act of assessing the process of civil recovery. What's in a name? It may not be important to the process, but it should not lead to confusion and misunderstandings.

*Naming the system for measuring success may be more important than expected. There are value judgments, misinterpretations and acceptance implications based on the name of the process.*

*The terms 'indicators' or 'measures of success' may be more descriptive and useful than those used by the NATO forces.*

## THE SELECTION OF MEASURES

Each of the NATO forces developed a set of desirable characteristics for their measures. IFOR's selection criteria included factors such as: grass-roots data, numeric in nature, objective, unbiased, potential to observe change. SFOR's initial criteria for basic MOE included mission related, comprehensive, meaningful, measurable, sensitive to change, timely and cost effective. For the follow-on SFOR+ system, the measures were clearly driven by the NAC's established criteria and end-states.

Many different measures could have been selected. IFOR concentrated on gauging the progress of the individual and then the community. Their measurements were primarily devoted to reestablishment of food and goods businesses, repairs to shelters, availability of potable water supplies, power and heating, sewerage, medical care and transport. SFOR expanded on this listing into other, higher order needs such as freedom of movement, police behavior, education, employment status and the reinstatement of the legal and governmental systems. The IFOR and SFOR selections were bottoms-up while the SFOR+ selections were top down. In the SMR method, measures were a derivative of the NAC designated key areas and, in fact, expanded on the earlier SFOR MOE.

The IFOR measures were rather narrow since they were attempting to measure lower order effects. For SFOR measurements were a bit deeper – having a two-level hierarchy and more complicated measures – even though the method of integrating these levels was never devised. For the SMR method, there was a deep and comprehensive set of measures with multiple levels in a complicated data hierarchy. These differences were probably appropriate for the time periods and the theater situations in which they were developed. IFOR was working in the area of a recent civil war and were primarily concerned about separating forces. SFOR was stabilizing the military situation and providing more support to the civil agencies. By mid-1998, the NAC had consolidated its ideas on a desirable end-state in the Balkans. Thus SFOR+ continued their reduced scale security mission, but had even more emphasis on supporting the international community with civil recovery.

*Select the measures of success in conjunction with the ultimate consumer of the information.*

*There are a many potential choices and criteria for selection but the final selection of measures will be time and theater-situation dependent.*

## NATURE AND SCOPE OF THE MEASURES

Measuring success in a civil recovery from disaster or civil war can be considered as a systems problem — not just a matter of measuring and evaluating measures individually. Indicators from many different areas are required. At a minimum, these areas include the military, economic, social, political, environmental and educational realms. Breaking this complexity into its component parts is easy enough and developing measures for the parts is relatively easy. Devising a method of combining these parts into an easy to understand index is the difficult challenge.

Extremely complex and inter-related systems get measured, described and are easily understood in other situations. The Consumer Price Index (CPI), the Producers Price Index (PPI), the Dow Jones Industrial Average all represent simple indices resulting from measuring many facets of complex areas. Furthermore, the measurements involved in developing the Human Development Index<sup>9</sup> (HDI) and the World Development Index<sup>10</sup> (WDI) are simple when considered individually, but complex when considered in the aggregate. The HDI and WDI develop simple, easily understood indexes but they gain meaning only by comparing them to the past or the projected future. They are multidimensional and delve into many of the diverse areas that provide hints of progress in recovery from civil strife. They do it by breaking the overall index into its components for the calculations and then combining the results to produce an index. The individual measures are valuable, and that they are inter-related to the other measures.

A good measure of success alerts you to a problem before it gets too bad and helps you recognize what needs to be done to fix the problem. However, the measures cannot be considered individually; they need to be viewed from a systems viewpoint. The key areas need to be linked and considered as an integrated system not as individual measures. In the NATO Balkans missions, only the SMR method was successful in this attempt — and then only partially successful.

*Develop each of the individual measures of success as accurately and thoroughly as possible — as if they were the end answer.*

*The individual measures are not an end in and of themselves — they are parts of the whole. Measures of success require an integrated systems view of the situation.*

## THE DATA PERSPECTIVE

---

<sup>9</sup> HDI is a UN indicator of human freedom and access in the countries of the world. It includes measures of gender-related development and empowerment, poverty profiles and indexes, women's access to education, child survival and development, health profiles, food security, educational systems and imbalances, access to information and communications, financial inflows and outflows, urbanization, energy use, population trends, military expenditures and resource use, environmental profile, national income accounts and trends in economic performance. <http://www.undp.org/hdro/indicators.htm>

<sup>10</sup> WDI is the World Bank's compilation of data about national and regional developments. It includes approximately 800 indicators concerning worldviews, people, environment, economy, markets, and global links. <http://www.worldbank.org/data/wdi/home.html>

Data is the basic building block for a measurement system. Its source, content, collection method, accuracy and its analysis and presentation are pertinent topics. The collection and analysis of data in a PSO is a complex undertaking. Generally, there are more data sources and data available than there is ability to collect and use it. It would be a very rare individual who could understand and analyze all of the diverse areas being reported. A single staff officer cannot do it. Data collection and analysis can only be undertaken with a team effort. Functional plans need to be developed for data collection, recording, consolidation, quality control, scoring (if used), querying, analysis methods and reporting. Security considerations with the military headquarters further complicate the collection and analysis efforts.

A data team to measure progress requires data collectors and recorders, database managers, experienced and knowledgeable personnel in each of the primary analysis areas, quality control supervisors, and senior analysts who can integrate the results from each of the very narrow, specialized fields and explain them to the commander and his staff.

*Success measurement in a PSO is dependent on a team of experts in each of the key areas and on their ability to integrate their knowledge and experience.*

How you get the best information in the first place is an interesting proposition. IFOR depended on staff information and troop developed information. SFOR depended on a combination of command and staff information, plus masses of data from the IOs and the NGOs. The follow-on SFOR+ information was primarily from the command and staff, but supplemented with analyst-collected information from the IOs and the NGOs.

Collecting information from the IOs and the NGOs is a daunting task. There are so many with such diverse focus areas but they are on the ground; engaged with the locals and have reams of information. At one point during the SFOR mission, there were over 400 individual groups operating in the Balkans providing some type of relief or assistance. Many of the IOs were small with only local support focal points, but others had a regional or national reach with broad and deep roots in the Balkans.

Which of the 400 organizations do you cultivate for information exchange? This decision is worthy of a campaign plan. Criteria need to be developed, plans devised and contacts made with the groups. Even so, they may not care to share data with the military. Initially, there was some distrust between the IOs and IFOR – probably due to the poor civil-military relationship during the UNPROFOR mission. Trust needs to be built and it wasn't until well into the SFOR mission that some mutual respect and trust was cultivated between the military and the civil support agencies.

*Cultivate long-term relationships with the international organizations and non-governmental organizations that have the best data on the situation and status in the theater.*

In addition, the information available from the IOs and the NGOs, the mass of information reported through military channels and public, open sources can be overwhelming. The normal patrol, security and observation missions conducted by the military units during PSOs also furnish the headquarters with an overwhelming amount of data – some useful and some totally extraneous. Military intelligence operations supplement and further load the information situation in the headquarters.

*Selecting the appropriate data sources is the essential step in building the right data for a system to measure success.*

*The data challenge in a PSO is not the 'lack of information,' but the 'information overload.'*

The electronic data capabilities of the NATO forces were a compounding factor in data area. While the communications system and network capabilities were paramount in moving information and keeping key participants informed, they also had a tendency to overload the commander and staff with useless information. Information overload is a clear danger in a PSO. The important facts and information may be buried in trivia. An efficient, readily available information system to catalog and sort this information is essential. The staff needs to focus attention on digging out the pertinent facts for the commander. Each staff section operating as a separate entity is counterproductive in this effort. A cross-staff information system is key to breaking the information stovepipes.

*An effective, easily searched staff information system helps to overcome the information overload situation.*

### **SOME CONCLUDING REMARKS**

Peace support operations are not going to go away; they are here to stay. For each of the future peace support operations, the military commanders and staff will continue to need some assessment of the progress in the recovery of the individual groups and nations. They will need metrics that will help them understand the progress they are making in accomplishing their missions. The perspectives presented in this paper are aimed at assisting military and civilian planners in future peace support operations. This paper highlighted some of the difficult learned lessons concerning the measurement of success during the NATO operations. The NATO operations were used as the example and their experiences are worthy of note. We can learn from NATO's experience in the Balkans. There were fits and starts; there were successes and there were dismal failures at measurement systems. The lessons learned thus far in the Balkans by NATO need to be incorporated into the planning for future measurement systems.

### **FOOTNOTES**

<sup>A</sup> Lambert, Nicholas J., 1997. *Operation Firm Endeavour: Campaign Data, Its Collection and Use*. Presented at the Directorate of Land Warfare Historical Co-ordination Group Conference, Trenchard Lines DGD&D Upavon, UK, and 28-29 April 1997.

<sup>B</sup> NATO Handbook 2001, <http://www.nato.int/docu/handbook/2001/index.htm>

<sup>C</sup> Calic, Marie-Janine and Nicole Gnessoto, Jane Sharp and Susan Woodward, 1998. *The Issues Raised by Bosnia, and the Transatlantic Debate*, Chaillot Paper 32, Institute for Security Studies of WEU, May 1998.

<sup>D</sup> International Crisis Group Report 80, *Is Dayton Failing? Bosnia Four Years after the Peace Agreement*, pg 65.

<sup>E</sup> NATO Handbook 2001, <http://www.nato.int/docu/handbook/2001/index.htm>

- <sup>F</sup> Lambert, Nicholas J., 2001. *Measuring the Success of the NATO Operation in Bosnia & Herzegovina 1995-2000*, Presented to the 17<sup>th</sup> European Conference on Operations Research, Budapest, Hungary, 16 July 2001.
- <sup>G</sup> Owen, William J., 1997. *Measures of Effectiveness: Progress on Bosnia-Herzegovina's Road to Peace*. Presented to the Symposium on Operational Analysis Contributions to the Implementation Force, UK Ministry of Defence, Farnborough, UK, and 5-6 June 1997.
- <sup>H</sup> Flemming, Stephan and William Owen, James Eckworth and Suzanne Griffin, 2000. *Measurement of Post-Conflict Resolution in Bosnia-Herzegovina and Implications for Command of Peace Operations*. Presented to the Human in Command Conference, Breda, The Netherlands, June 2000.
- <sup>I</sup> Owen, William J., 1998. *Operational Analysis Support for the Peacekeepers*. The Hague, The Netherlands, May 1998. Presented to Seminar on Operational Analysis, Centre de Recherche Operationelle et de Simulation de l'Armee de Terre, Lille, France, 18-19 May 1998.
- <sup>J</sup> *Ibid*, Flemming (2000).
- <sup>K</sup> *Ibid*, Flemming (2000).
- <sup>L</sup> *Ibid*, Lambert, (2001).
- <sup>M</sup> Siegel, Adam B., 2001. *Deployed Analytical Support to Military Commands: The Example of NATO Operations in Bosnia-Herzegovina*. *Defence Analysis*, vol. 17, no. 1, 2001.
- <sup>N</sup> Griffin, Suzanne, 2000. *Operational Analysis at the Frontline — A Generic Approach to Measuring Progress?* Presented to the 17th ISMOR, 31 August 2000.
- <sup>O</sup> Workshop held at the Lester B. Pearson Canadian International Peacekeeping Training Centre, Cornwallis Park, Nova Scotia, Canada, April 2001, <http://cornwallis.gmu.edu/c6/call.html>
- <sup>P</sup> Hart, Maureen, *Sustainable Measures: Indicators of Sustainability*. <http://www.sustainablemeasures.com/>

## <sup>A</sup>FOOTNOTES

Lambert, Nicholas J., 1997. *Operation Firm Endeavour: Campaign Data, Its Collection and Use*. Presented at the Directorate of Land Warfare Historical Co-ordination Group Conference, Trenchard Lines DGD&D Upavon, UK, and 28-29 April 1997.

<sup>B</sup> NATO Handbook 2001, <http://www.nato.int/docu/handbook/2001/index.htm>

<sup>C</sup> Calic, Marie-Janine and Nicole Gnessoto, Jane Sharp and Susan Woodward, 1998. *The Issues Raised by Bosnia, and the Transatlantic Debate*, Chaillot Paper 32, Institute for Security Studies of WEU, May 1998.

<sup>D</sup> International Crisis Group Report 80, *Is Dayton Failing? Bosnia Four Years after the Peace Agreement*, pg 65.

<sup>E</sup> NATO Handbook 2001, <http://www.nato.int/docu/handbook/2001/index.htm>

<sup>F</sup> Lambert, Nicholas J., 2001. *Measuring the Success of the NATO Operation in Bosnia & Herzegovina 1995-2000*, Presented to the 17<sup>th</sup> European Conference on Operations Research, Budapest, Hungary, 16 July 2001.

<sup>G</sup> Owen, William J., 1997. *Measures of Effectiveness: Progress on Bosnia-Herzegovina's Road to Peace*. Presented to the Symposium on Operational Analysis Contributions to the Implementation Force, UK Ministry of Defence, Farnborough, UK, and 5-6 June 1997.

<sup>H</sup> Flemming, Stephan and William Owen, James Eckworth and Suzanne Griffin, 2000. *Measurement of Post-Conflict Resolution in Bosnia-Herzegovina and Implications for Command of Peace Operations*. Presented to the Human in Command Conference, Breda, The Netherlands, June 2000.

<sup>I</sup> Owen, William J., 1998. *Operational Analysis Support for the Peacekeepers*. The Hague, The Netherlands, May 1998. Presented to Seminar on Operational Analysis, Centre de Recherche Operationelle et de Simulation de l'Armee de Terre, Lille, France, 18-19 May 1998.

<sup>J</sup> *Ibid*, Flemming (2000).

<sup>K</sup> *Ibid*, Flemming (2000).

<sup>L</sup> *Ibid*, Lambert, 2001.

<sup>M</sup> Siegel, Adam B., 2001. *Deployed Analytical Support to Military Commands: The Example of NATO Operations in Bosnia-Herzegovina*. *Defence Analysis*, vol. 17, no. 1, 2001.

<sup>N</sup> Griffin, Suzanne, 2000. *Operational Analysis at the Frontline — A Generic Approach to Measuring Progress?* Presented to the 17th ISMOR, 31 August 2000.

<sup>O</sup> Workshop held at the Lester B. Pearson Canadian International Peacekeeping Training Centre, Cornwallis Park, Nova Scotia, Canada, April 2001, <http://cornwallis.gmu.edu/c6/call.html>

<sup>P</sup> Hart, Maureen, *Sustainable Measures: Indicators of Sustainability*. <http://www.sustainablemeasures.com/>