Analysis of Smaller-scale Contingency Operations in Long Term Defence Planning
**SAS027 Analysis of Smaller Scale Contingencies: Analysis of Smaller-scale Contingency Operations in Long Term Defence Planning**

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   - NATO SAS

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   - See also ADM001758, NATO RTO-TR-SAS-027 Handbook on the Analysis of Smaller-Scale Contingency Operations in Long Term Defence Planning (Manuel de l'analyse des opérations de circonstance de moindre échelle pour la planification de la défense à long terme)., The original document contains color images.

10. **NUMBER OF PAGES**
    - 44
What is a SSC?

A Smaller-scale Contingency (SSC) is defined as an operation involving a coalition force initially deployed for up to six months and of no more than 100,000 personnel. The operation may continue at significantly reduced force levels for a longer duration.

The emphasis is on the military contributions to operations whose primary objectives are diplomatic, humanitarian or other non-military outcomes. The military task will generally be to create and maintain a set of conditions within which a non-military goal can be achieved.
Types of SSC

- **NATO Agreed Tasks**
  - Peace Support Operations (PSO), which includes Peacekeeping (PK), Peace Enforcement (PE), as well as conflict prevention, peacemaking, peace building and humanitarian operations
  - Humanitarian Operations (in non-PSO scenarios)
  - Search and Rescue Operations (SAR)

- **Tasks Conducted Nationally, Bilaterally or Multinationally**
  - Counter-insurgency Operations (COIN)
  - Combating terrorism
  - Non-combatant Evacuation Operations (NEOs)
  - Military aid/support to the Civil Authorities
  - Counter drug
  - Enforcement of sanctions
Long-term defence planning

- **Force Structure Analysis**
  - Evaluation of overall balance of NATO or a nation’s forces, between services and between arms of each service

- **Equipment Investment Analysis**
  - Narrower in scope than Force Structure Analysis but with a more detailed representation of equipment characteristics

- **Other long-term defence planning issues**
  - Analysis to determine the best way to organise forces within a force structure, balance between active and reserve components, personnel issues etc.
Long Term Defence Planning

- SAS025 identified an analytical framework for the long-term defence planning process.

- Analysis of Smaller Scale Contingencies is an integral part of this process.
SAS025 Analytical Framework

- Policy
- Environment

Scenarios

- Force Packages
  - Force Pool
    - Risk/Cost Tradeoffs
      - Planning Recommendations
    - Cost Testing
  - Current Structure & Programmes
  - Operational Effectiveness Testing
    - Concurrency Testing
SAS025 Analytical Framework

- policy
- environment
- scenarios
- force packages
- force pool
- risk/cost tradeoffs
- planning recommendations
- current structure & programmes
- cost testing
- operational effectiveness testing
- concurrency testing
Inputs

- **Policy**
  - Defence policy is the key
  - Need to consider warfighting and SSC operations
  - Clarify which types of SSC operations are drivers

- **Environment**
  - Geo-physical, political and threat inputs
SAS025 Analytical Framework

- Scenarios
  - Policy
  - Environment

- Force Packages
  - Operational Effectiveness Testing
  - Concurrency Testing

- Force Pool
  - Risk/Cost Tradeoffs
  - Planning Recommendations

- Current Structure & Programmes
  - Cost Testing
Scenarios

Specific challenges with SSC:
- the wide variety
- the complexity
- objectives
- other players
- balance the level of detail against the number of scenarios
Campaign Options

- Range of campaign options
- For SSCs the term “campaign” may need to be broadly interpreted
- Military campaign aims will be expressed in terms of creating and maintaining the conditions for other agencies to act
- Many actors
SAS025 Analytical Framework

- Scenarios
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  - Concurrency testing
  - Force packages
    - Force pool
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      - Planning recommendations
      - Current structure & programmes
      - Cost testing
Force Packages

- Coalition partners need to be estimated
- Estimates/contributions could be based on historical contributions
- Civilian agencies
- Analysis of command and control structures and capabilities is challenging
SAS025 Analytical Framework

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Operational Effectiveness Testing

- Force generation
- Deployment
- Performance in theatre
- Rotation and Sustainability
- C2
- Info Ops
Force Generation and Deployment

- The identified readiness of military units is linked to their training
  - Readiness for SSCs may be different
- Target times for forces to be ready in theatre in SSCs may be difficult to determine
- Rapid arrival of the lead echelons may have significance beyond their military capability
Performance in Theatre

Approach depends on aim of the analysis:

- Based on historical performance
  - may suffice for Force Structure Analysis

- *ab initio* approach
  - likely to be necessary for Equipment Investment Analysis
  - ranges from simple troops to task analysis through to dynamic campaign modelling
  - Establishing Measures of Merit may be problematic
Sustainability and Rotation

- Existing NATO logistic planning guidelines, which are designed for warfighting, are inadequate for most SSC operations.
- New analysis may be needed.
  - Historical data may partly fill the gap.
- Sustainability may need to be assessed for the coalition as a whole, as in some operations a single nation provides support to all.
C2 and Info Ops

◆ C2
  ▶ C2 structures may need to include requirement for liaison among all military and civilian governmental organisations
  ▶ Interoperability issues will need to be addressed

◆ Info Ops
  ▶ Significant contribution to many SSCs
  ▶ Analytical techniques in this area are immature
SAS025 Analytical Framework

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- concurrency testing

SAS027 Analysis of Smaller Scale Contingencies
Concurrency Testing

- The scale, duration and frequency of SSCs causes problems
- Substitution of over-stretched forces
- Recovery, regeneration and harmony issues require dynamic modelling of operations over time
  - based on historical data on the frequency and duration of operations of different types
SAS025 Analytical Framework

- Scenarios
  - Policy environment
  - Operational effectiveness testing
  - Concurrency testing
- Force pool
  - Risk/cost tradeoffs
  - Planning recommendations
- Cost testing
- Current structure & programmes

- Force packages
Required Pool of Forces

- Calculation of the required pool of forces will need to take account of:
  - The size and composition of the force packages
  - The results of the concurrency analysis
  - Any additional forces required to sustain peacetime activities
  - Additional force elements required to maintain training programmes

- It will need to take account of cost constraints
SAS025 Analytical Framework

- Policy
- Environment

Scenarios

- Force packages
- Current structure & programmes

- Operational effectiveness testing
- Concurrency testing

- Force pool
- Cost testing

Risk/cost tradeoffs

Planning recommendations
Risk/Cost Tradeoffs

- A force structure optimised to undertake just high intensity conflict will differ from one optimised to undertake SSC
- Balance normally needed
- SSCs do not always require balanced forces, so providing for multiple SSCs may require a more modular force structure
Measures of Merit

- Establishing an objective set of relevant metrics is important for scenario analysis.

- Research and Technology Organisation Technical Report 9 provides a useful hierarchical framework for defining measures of merit (MOM) for analysis of command and control.

- Hierarchy has been developed to cover all scenario based analysis.
Measure of Merit Hierarchy

<table>
<thead>
<tr>
<th>Dimensional Parameters (DP)</th>
<th>Properties or characteristics inherent in the physical systems or force elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measures of Performance (MoP)</td>
<td>Measures how well a system or force element accomplishes a defined task. It is assessed by the combination of DP in an appropriate model</td>
</tr>
<tr>
<td>Measures of Effectiveness (MoE)</td>
<td>Measures how well systems or force elements accomplish their assigned tasks within an operational context</td>
</tr>
<tr>
<td>Measures of Force Effectiveness (MoFE)</td>
<td>Measures the degree to which a force meets its objectives. A force may be any organization or group of organizations, civilian or military, generally under coherent direction</td>
</tr>
<tr>
<td>Measure of Policy Effectiveness (MoPE)</td>
<td>Measures how well the overall objectives of the mandating authority are achieved</td>
</tr>
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</table>

May be assessed independent of scenario

Should only be assessed in context of scenario
Examples of MoMs for SSCs

<table>
<thead>
<tr>
<th>Operation</th>
<th>Example</th>
<th>DP</th>
<th>MoP</th>
<th>MoE</th>
<th>MoFE</th>
<th>MoPE</th>
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<tbody>
<tr>
<td>Non Combatant Evacuation</td>
<td>Sierra Leone</td>
<td>Helicopter 1. Passenger capacity 2. Range</td>
<td>Rate of evacuation for a single helicopter as a function of range and density altitude</td>
<td>Rate for a unit of helicopters to evacuate people in a non-permissive environment</td>
<td>1. Time to complete evacuation 2. Percentage of people evacuated</td>
<td>1. Total casualties among evacuees and military forces 2. People still at risk</td>
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<td>Coercion ( Strikes and Raids )</td>
<td>Deliberate Force (Kosovo)</td>
<td>Range and payload of an aircraft 1. Circular error probable of a system 2. Daily sortie rate</td>
<td>1. Number of targets hit per day 2. Collateral damage based on accuracy of delivery</td>
<td>1. Time to destroy all targets/total collateral damage 2. Own force casualties 3. Percentage of targets that can be destroyed</td>
<td>1. Response of opponent 2. Extent of collateral damage</td>
<td></td>
</tr>
</tbody>
</table>
Developing MoMs

To identify MoMs conduct a task breakdown for the scenario:

- begin with mandate and identify necessary tasks and subtasks
- develop the detail only where required for the analysis
- include implied tasks such as ‘maintain a presence ...’, ‘deter intervention by ...’.
Task Decomposition: MOPE to MOE

- Mandate Peace and Stability (MOPE)
  - Peace Enforcement Stability/Conflict (MOFE)
    - Refugee Camps Take care of people (MOFE)
    - Locate Population (MOE)
  - Humanitarian Support Take care of refugees (MOFE)
    - Internally Displaced Take care of people (MOFE)
    - Provide Food Transport food (MOE)
  - Political Stability Form government (MOFE)
    - Provide Medical Care Teams/evacuate (MOE)
  - Economic Development: Banking and GNP (MOFE)

Aggregation: DPs to MOEs

- Food moved Tons per day
  - By the fleet in the scenario (MOE)
  - By a single helicopter (MOP)
- Helicopter Capacity
  - Tons per day
- Payload Tons per sortie (DP)
- Range and speed Knots/KPH (DP)
- Availability Sorties per day (DP)
Issues

- Phasing of SSC scenarios
  - Task breakdown, and thus MoMs, may be different in different phases

- Surrogate MoMs
  - Where it is not possible to establish a quantitative link between levels it may be necessary to use lower level MoMs as surrogates for higher level MoMs

- Military and Non-Military Dimensions
Military and Non-Military Dimensions

- Many SSCs involve significant non-military dimensions
- It may be necessary to consider the impact of non-military factors on the military intervention force and the impact of the military on the civil society
- It is possible for one component to succeed in its mission while undermining the mission of another
  - e.g. in a humanitarian operation the efficient delivery of food aid may damage the local agricultural economy and so slow down a return to normality
  - e.g. in a peace support operation the rapid demobilisation of militias may lead to an increase in criminal activity if the economy cannot provide sufficient paid employment
Solution Space for SSC Studies
Selecting MoMs

- Force Structure Analysis
  - Use highest possible level MoM
  - usually MOFE

- Equipment Investment Analysis
  - Use the lowest level of MoM that brings together all characteristics of the equipment options
  - usually MoE
Methods and Models Database

- General information
  - Name, description, …

- Measures of Merit

- Resources

- Software implementation (if applicable)
  - Programming language, Operating system, …

- Domain information
  - Phases, Levels of aggregation, …

- Other information
Coverage

- Current entries
  - 29 methods
  - 26 models (software)
  - 14 method and model (software)
  - 69 entries (total)
### Content

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Historical SSC Database

Coverage
- Since January 1990
- All instances where a nation has deployed its military forces outside its borders on a SSC operation of any type

Database contents
- 124 countries
- 1383 individual SSC commitments
Data Elements Collected

For each international SSC mission:
- Dates (start, end)
- Location
- Alliance context
- Operation code name
- Mission statement:
  - Text description
  - Classification
- Background information
Data Elements Collected

- For each nation’s contribution:
  - Start/end dates of contribution
  - Number and types of units deployed
    - Regular/reserve force ratio
    - Volunteer/conscript ratio
  - Number and types of major equipments deployed
  - Rotational information
Sample Database Entry 1

Country: MALAYSIA
Location and Year: EAST TIMOR (1999- )
Coalition/Alliance Context: UN-sanctioned coalition, then UN-commanded force
Coalition Operation Code Name: International Force East Timor (INTERFET) then United Nations Transitional Administration in East Timor (UNTAET)
Coalition/Alliance Mission: To establish and maintain a secure environment in East Timor and then conduct safe and democratic elections
Type of Operation: Peace Operation: non-linear peacekeeping
Start Date: Oct 99
End Date: Feb 00
National Forces Employed: INTERFET: 20 pers working with the Jordanian Battalion[1]
UNTAET: Military observers

Background: In the wake of Portuguese de-colonization, the non-Muslim majority of East Timor sought self-determination, which was ruthlessly crushed by Indonesia when she invaded in 1975. In the years that followed, the East Timorese resistance conducted a low-level guerilla campaign against Indonesian forces on the island. This campaign was
**Sample Database Entry 2**

**Country:** UNITED STATES
**Location and Year:** HAITI (1993-96) [1]
**Coalition/Alliance Context:** UN-supported coalition
**Coalition Operation Code Name:** Operation SUPPORT DEMOCRACY
**Coalition/Alliance Mission:** To enforce UN sanctions against the Haitian junta.
**Type of Operation:** Peace Operation: sanctions enforcement, Humanitarian Assistance
**Start Date:** Sep 93
**End Date:** Sep 94
**National Forces Employed:** US Navy: elements of a 6-ship Destroyer Squadron (DESRON-24) (DDG, DD and FFG-type vessels) [2]. Elements of a SEAL SOF unit. 2 patrol craft (USS Cyclone and Tempest, USS Hurricane and USS Monsoon in later rotations). For Op CAULDRON: 1 X LST (USS Harlan County) with composite 250-man Canadian-American construction engineer unit aboard. [3]

**Background:**
UN Security Council resolutions called for a naval blockade of Haiti in response to the overt prevention of the elected government to administer the country by a military dictatorship. Op SUPPORT DEMOCRACY consisted of a total of 20 Canadian, American, Dutch, French, British, and Argentinean ships in a joint task force (JTF-120). The stated
Conclusions

● Need to consider the full spectrum of operations anticipated in structuring forces and procuring military equipment

● It is not necessary to have a complete understanding of all aspects of an SSC when undertaking analysis to support long term defence planning issues provided the analysis is appropriately structured

● Data on SSCs is required to support analysis