



SAS027 Analysis of Smaller Scale Contingencies



Analysis of Smaller-scale Contingency Operations in Long Term Defence Planning

Report Documentation Page

Form Approved
OMB No. 0704-0188

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1. REPORT DATE 01 FEB 2005	2. REPORT TYPE N/A	3. DATES COVERED -			
4. TITLE AND SUBTITLE SAS027 Analysis of Smaller Scale Contingencies: Analysis of Smaller-scale Contingency Operations in Long Term Defence Planning		5a. CONTRACT NUMBER			
		5b. GRANT NUMBER			
		5c. PROGRAM ELEMENT NUMBER			
6. AUTHOR(S)		5d. PROJECT NUMBER			
		5e. TASK NUMBER			
		5f. WORK UNIT NUMBER			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) NATO SAS		8. PERFORMING ORGANIZATION REPORT NUMBER			
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)			
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)			
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release, distribution unlimited					
13. SUPPLEMENTARY NOTES See also ADM001758, NATO RTO-TR-SAS-027 Handbook on the Analysis of Smaller-Scale Contingency Operations in Long Term Defence Planning (Manuel de lanalyse des opérations de circonstance de moindre échelle pour la planification de la défense à long terme)., The original document contains color images.					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT UU	18. NUMBER OF PAGES 44	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			



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

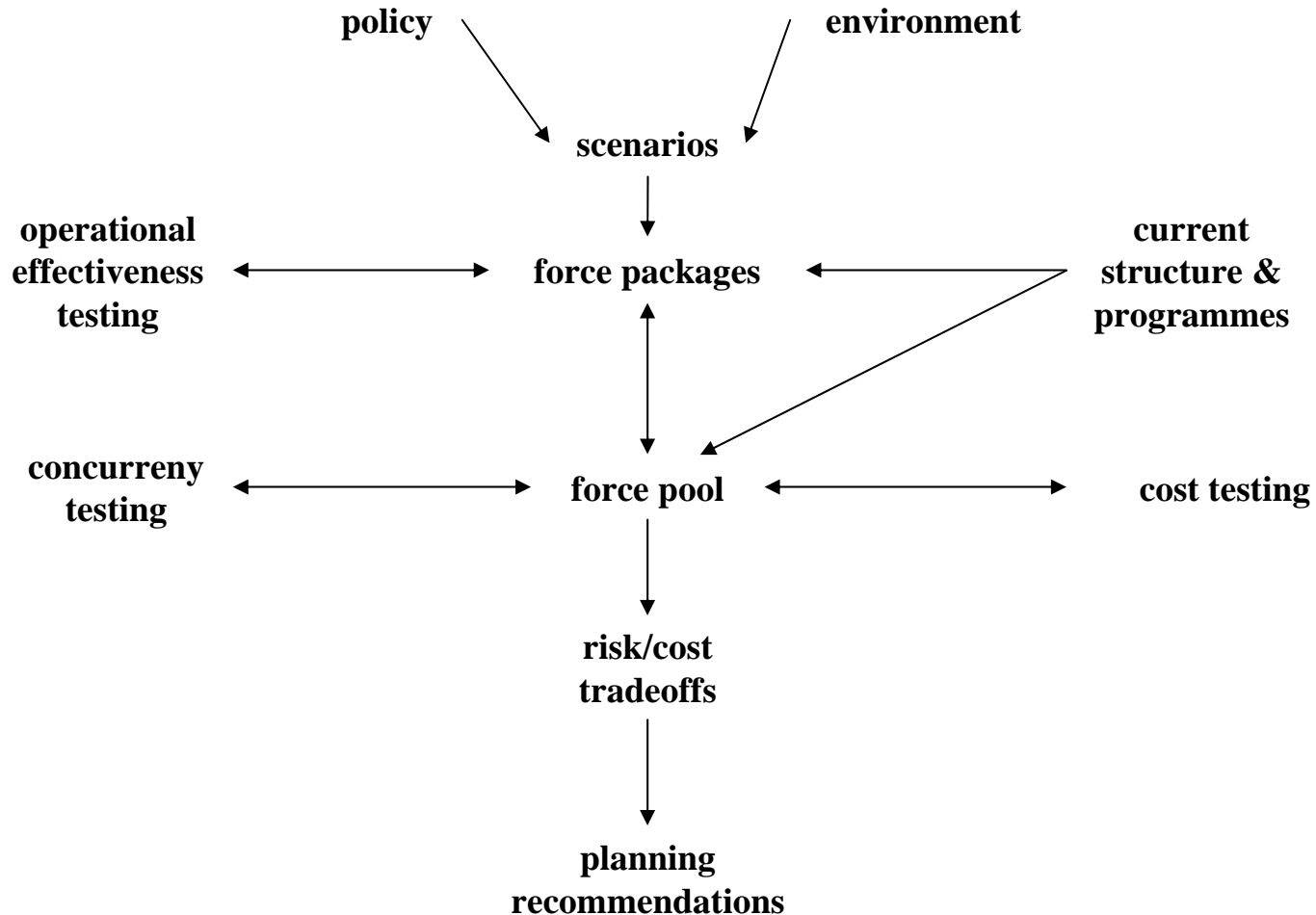
- ☒ Analysis to determine the best way to organise forces within a force structure, balance between active and reserve components, personnel issues etc.



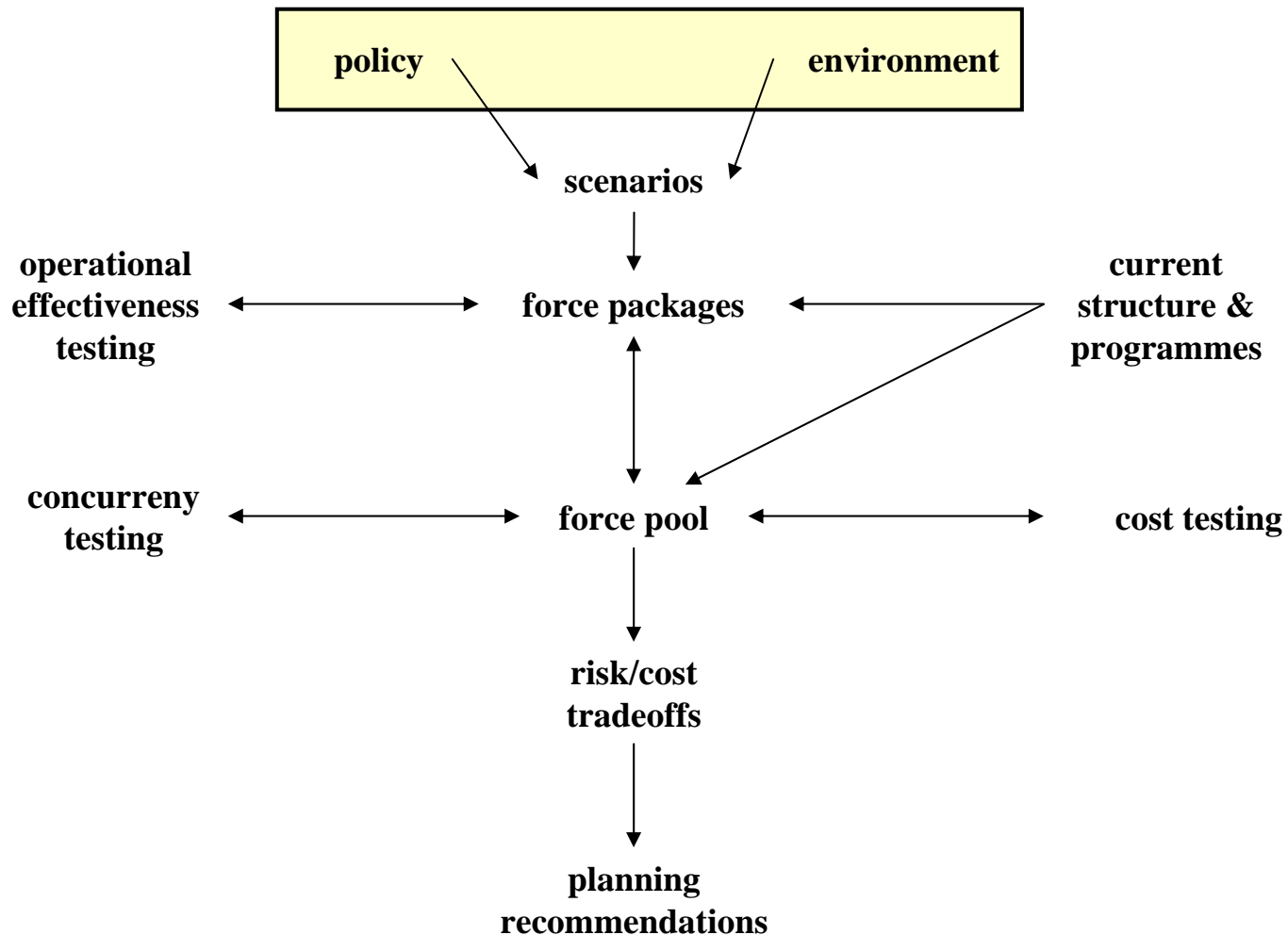
Long Term Defence Planning

- 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



SAS025 Analytical Framework





Inputs

● Policy

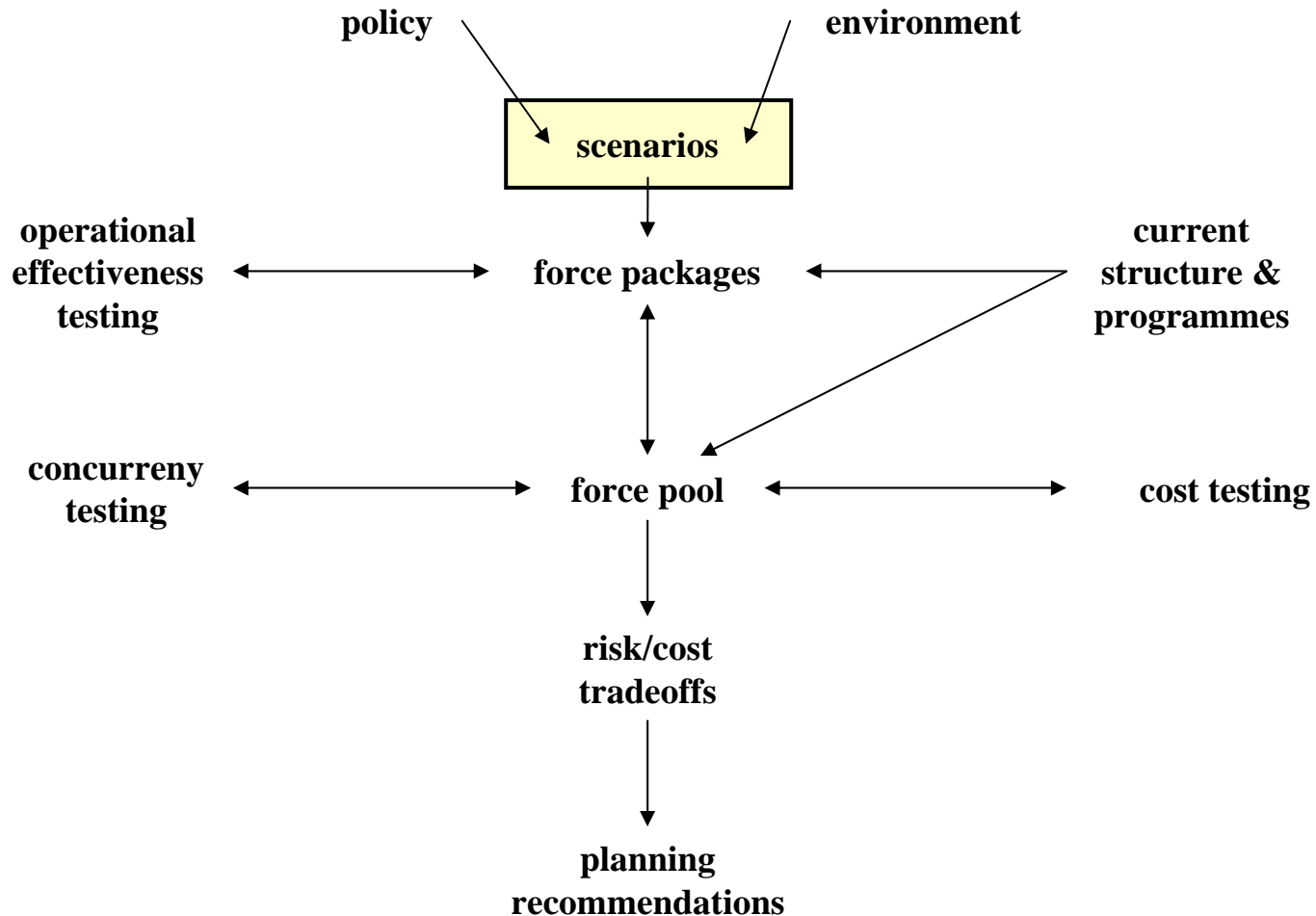
- Defence policy is the key
- Need to consider warfighting and SSC operations
- Clarify which types of SSC operations are drivers

● Environment

- Geo-physical, political and threat inputs



SAS025 Analytical Framework





Scenarios

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

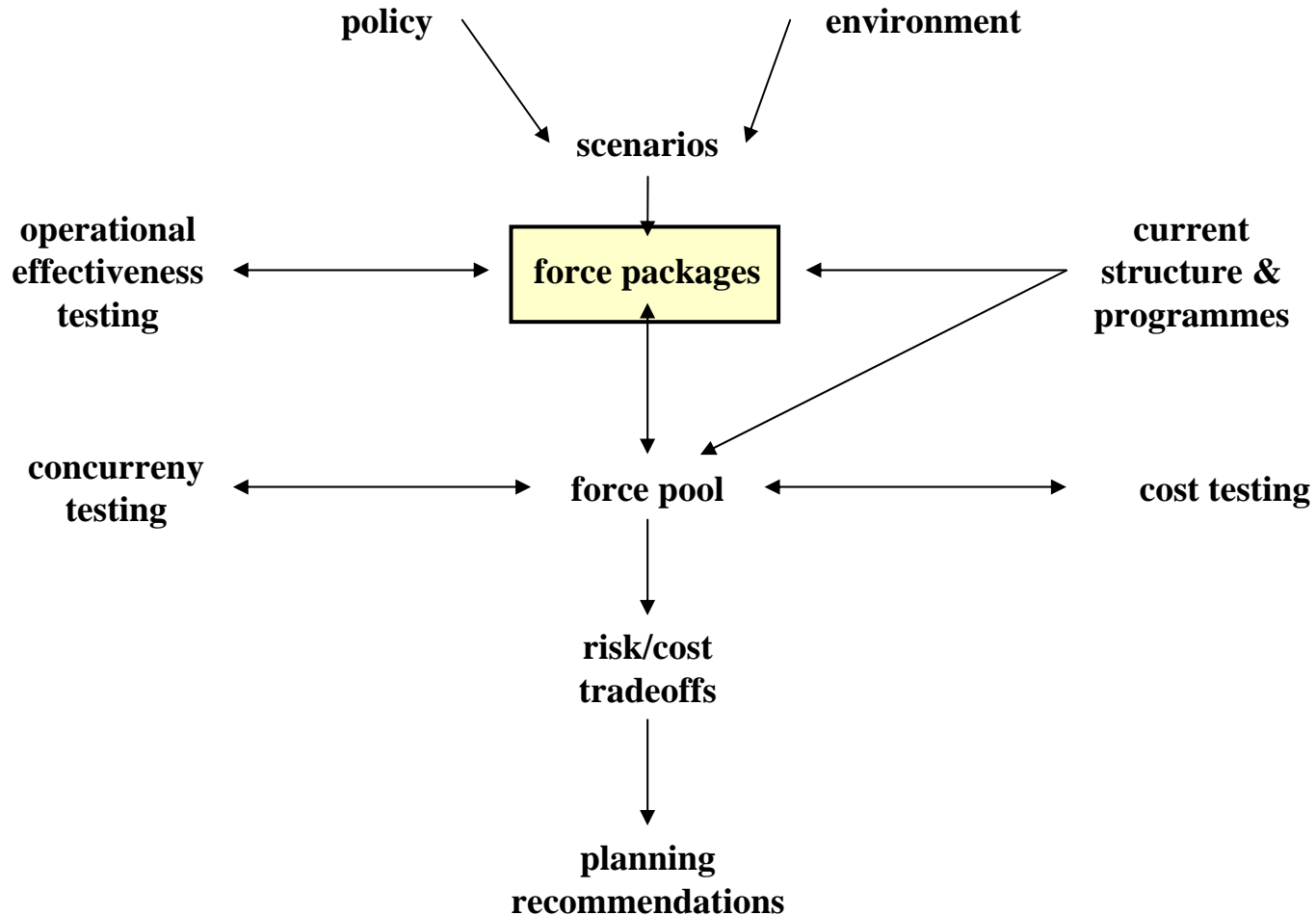


Campaign Options

- 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



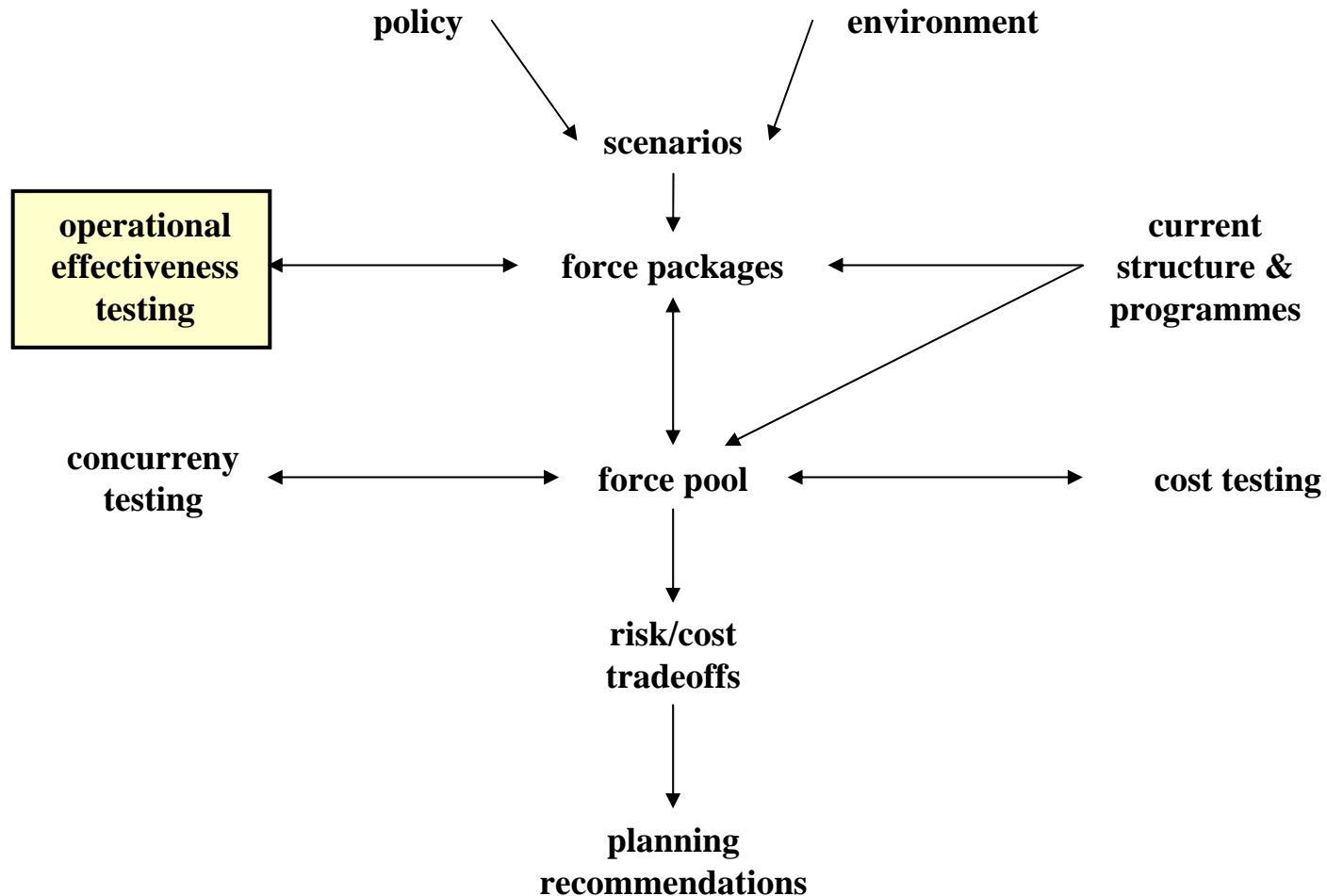


Force Packages

- 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





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

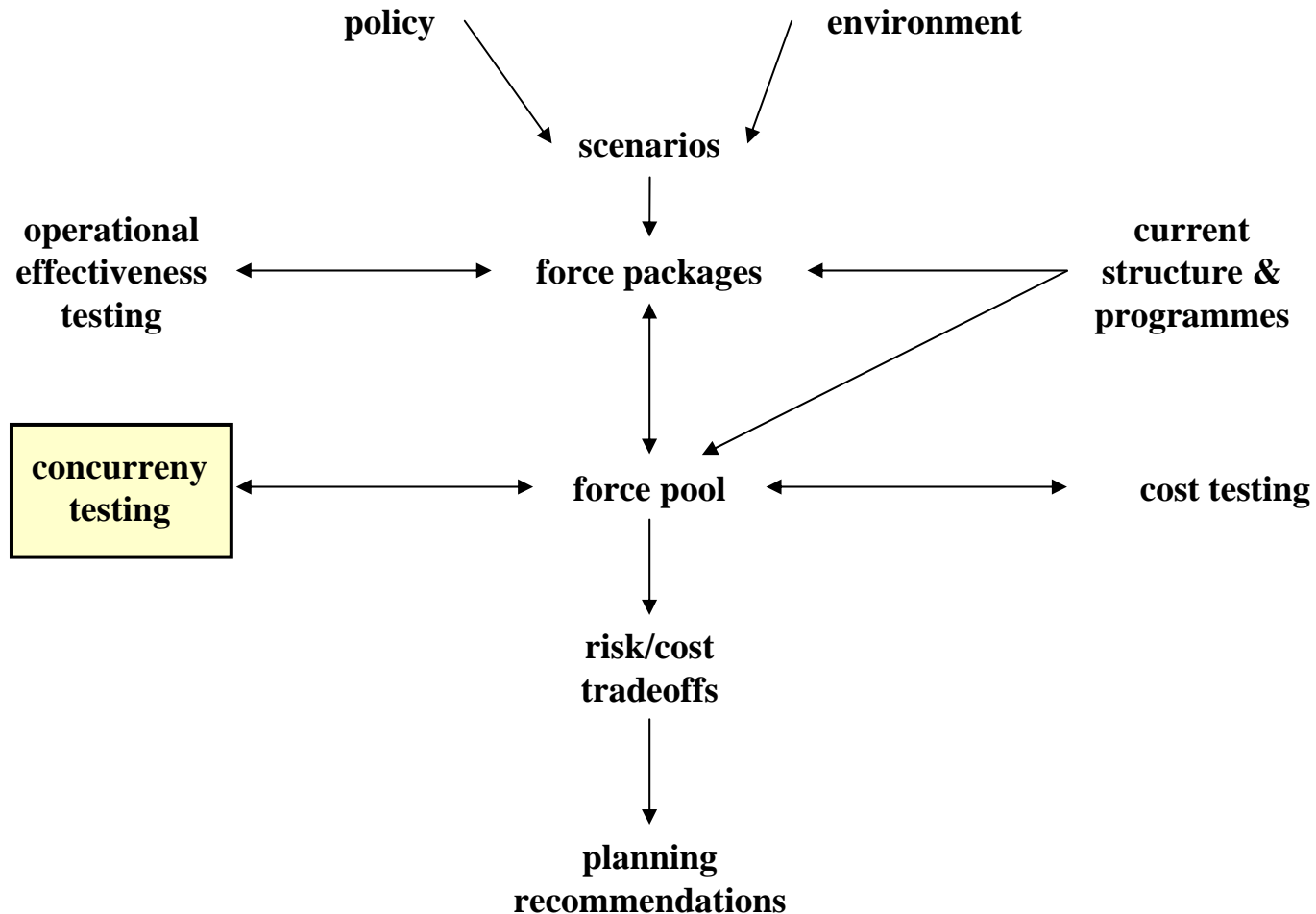
● C2

- 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

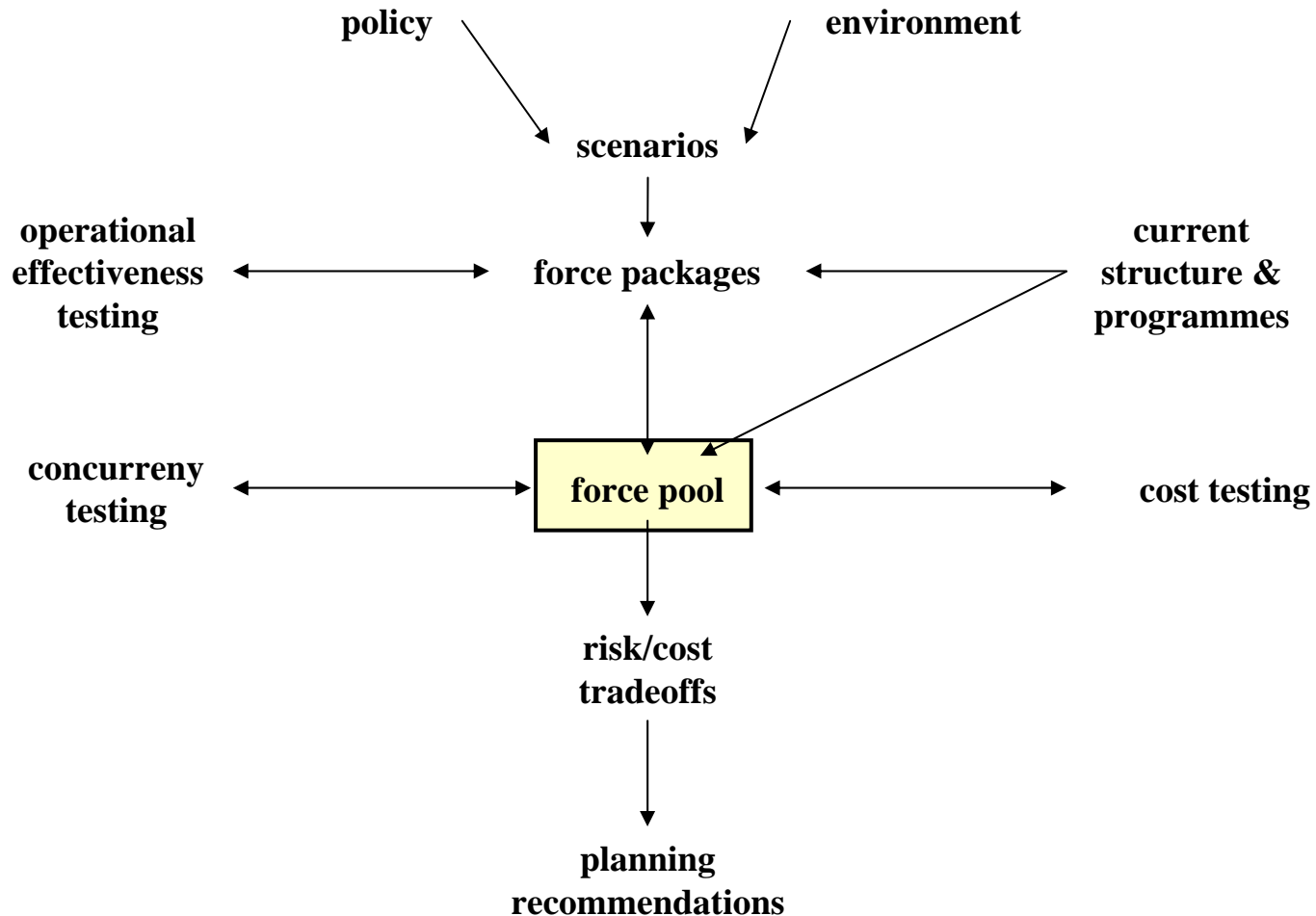




Concurrency Testing

- 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

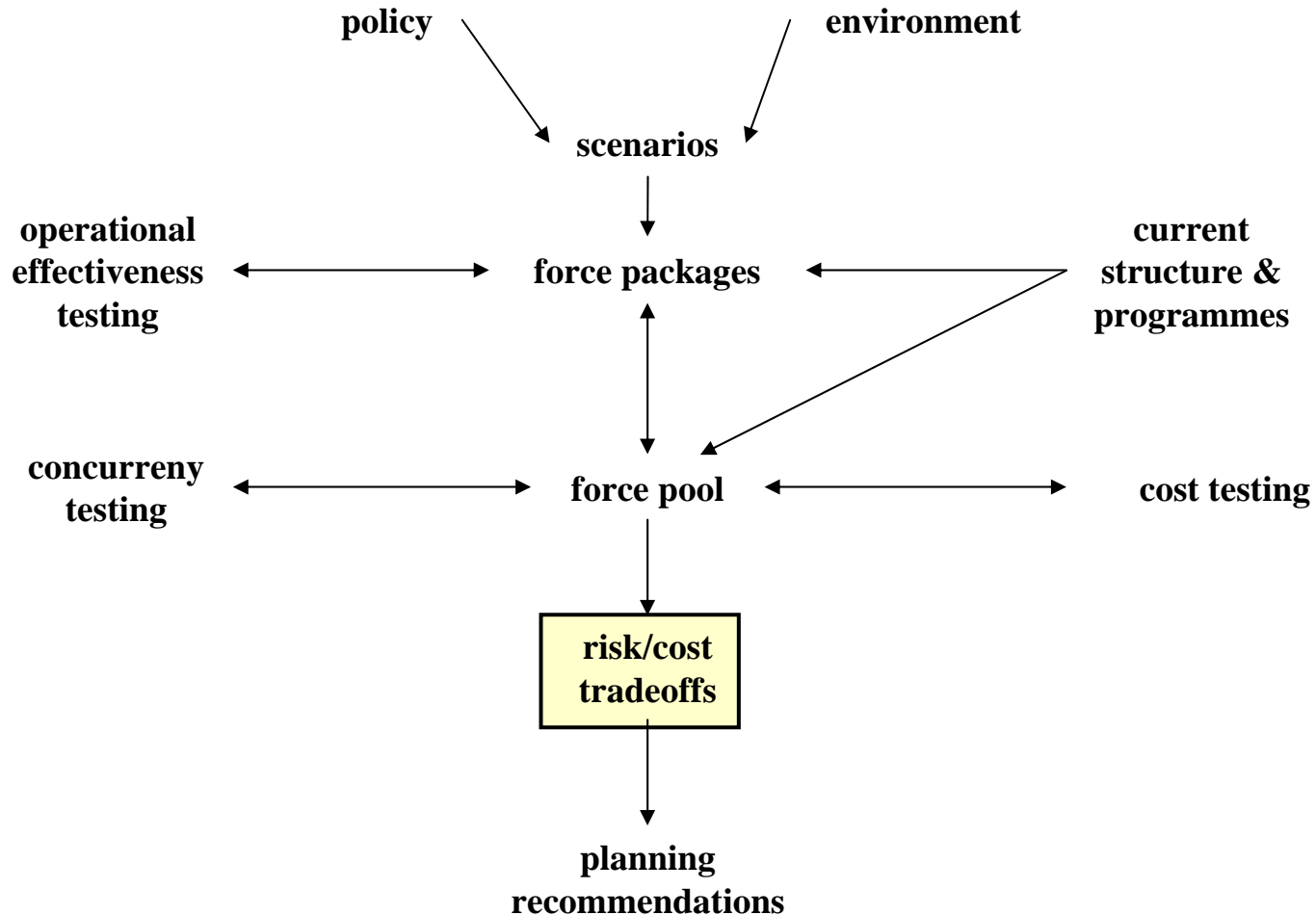




Required Pool of Forces

- 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





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

**Dimensional
Parameters
(DP)**

Properties or characteristics inherent in the physical systems or force elements

May be assessed independent of scenario

**Measures of
Performance
(MoP)**

Measures how well a system or force element accomplishes a defined task. It is assessed by the combination of DP in an appropriate model

**Measures of
Effectiveness
(MoE)**

Measures how well systems or force elements accomplish their assigned tasks within an operational context

Should only be assessed in context of scenario

**Measures of
Force Effectiveness
(MoFE)**

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**

**Measure of Policy
Effectiveness
(MoPE)**

Measures how well the overall objectives of the mandating authority are achieved



Examples of MoMs for SSCs

Operation	Example	DP	MoP	MoE	MoFE	MoPE
Non Combatant Evacuation	Sierra Leone	Helicopter 1. Passenger capacity 2. Range	Rate of evacuation for a single helicopter as a function of range and density altitude	Rate for a unit of helicopters to evacuate people in a non-permissive environment	1. Time to complete evacuation 2. Percentage of people evacuated	1. Total casualties among evacuees and military forces 2. People still at risk
Coercion (Strikes and Raids)	Deliberate Force (Kosovo)	Range and payload of an aircraft	1. Circular error probable of a system 2. Daily sortie rate	1. Number of targets hit per day 2. Collateral damage based on accuracy of delivery	1. Time to destroy all targets/total collateral damage 2. Own force casualties 3. Percentage of targets that can be destroyed	1. Response of opponent 2. Extent of collateral damage
Peace Support	Bosnia	1. Rate of movement of patrols 2. Number of patrols per company per week	1. Area covered by patrol per day 2. Expected casualties if patrol attacked 3. Frequency of patrol visits	1. Reduction in murder rate in patrolled areas 2. Patrol casualties 3. Time to next incident after a patrol	1. Murder rate 2. Number of violations of ceasefire agreement 3. Displaced person returns 4. Percent of crimes solved	1. Percentage of civil authority functions conducted by local people 2. Percentage of popular support for government 3. Support by factions 4. Duration of military deployment 5. Intervention force casualties

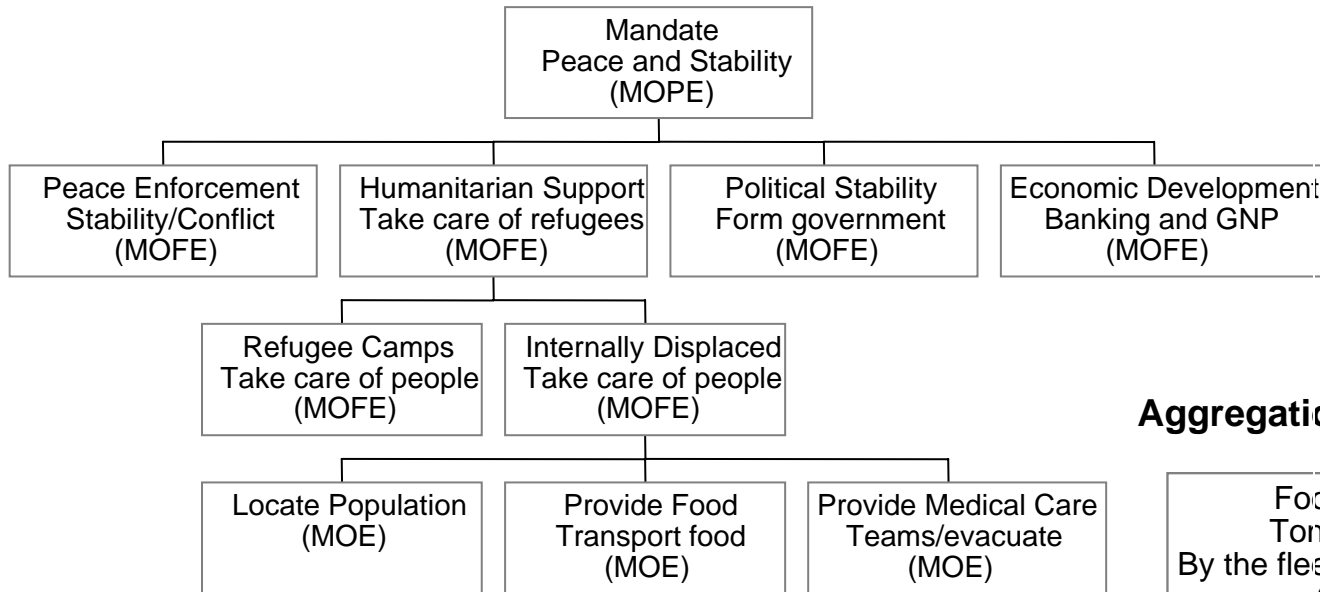


Developing MoMs

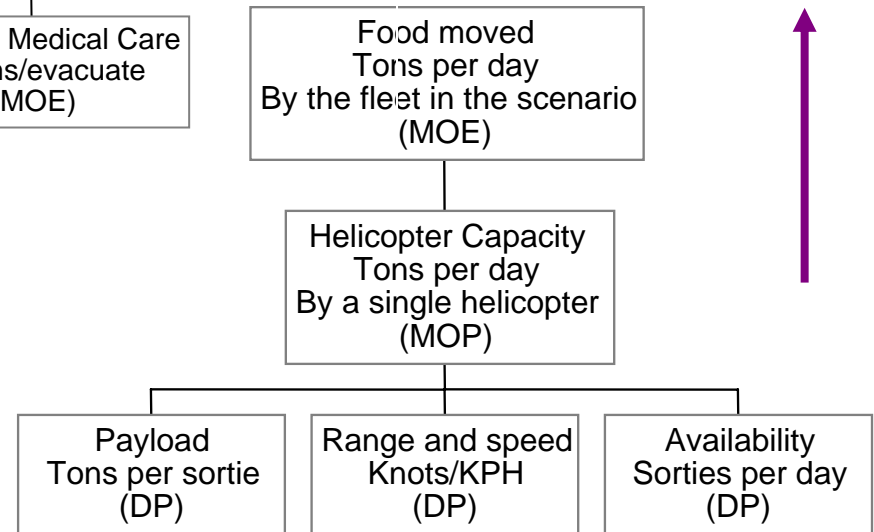
- To identify MoMs conduct a task breakdown for the scenario
 - begin with mandate and identify necessary tasks and subtasks
 - develop the detail only where required for the analysis
 - include implied tasks such as ‘maintain a presence ...’, ‘deter intervention by ...’.



Task Decomposition: MOPE to MOE

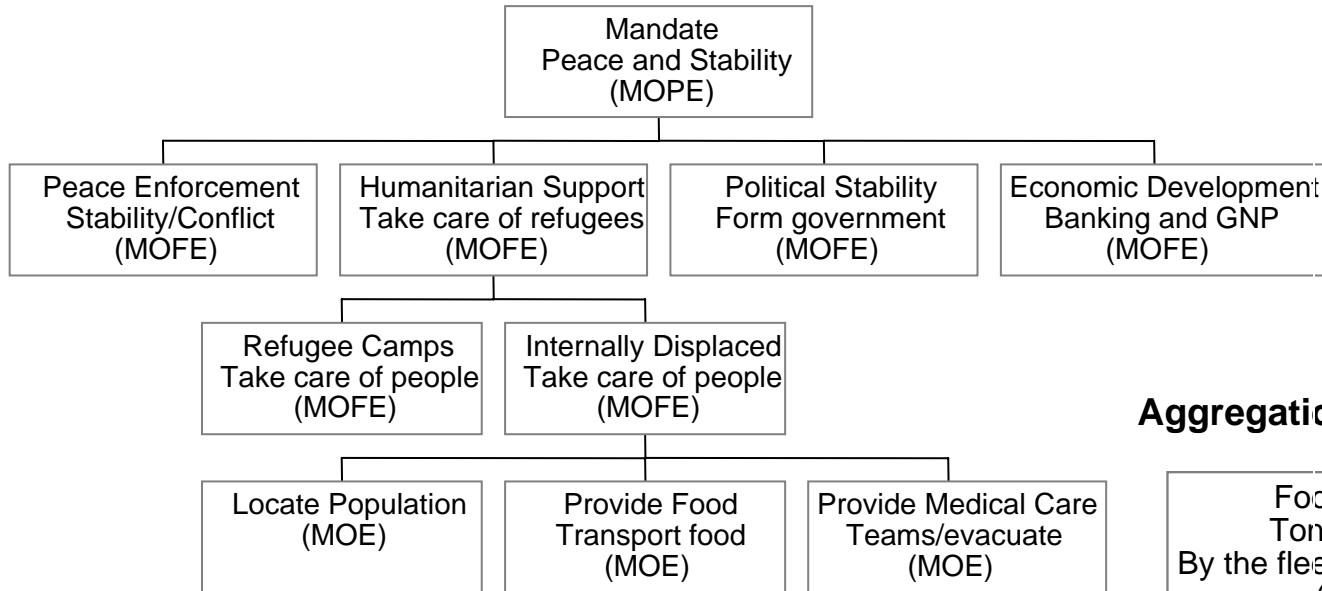


Aggregation: DPs to MOEs

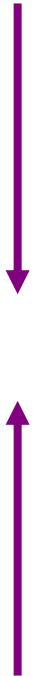
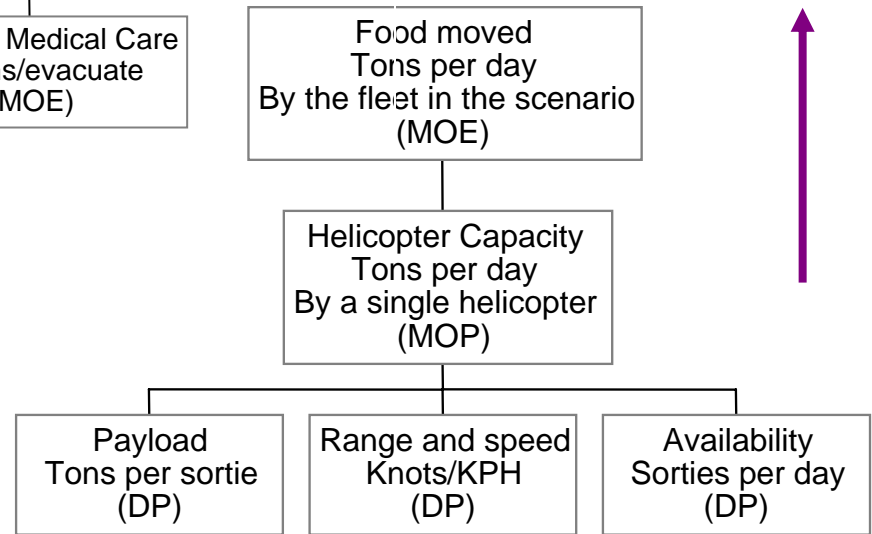




Task Decomposition: MOPE to MOE



Aggregation: DPs to MOEs





Issues

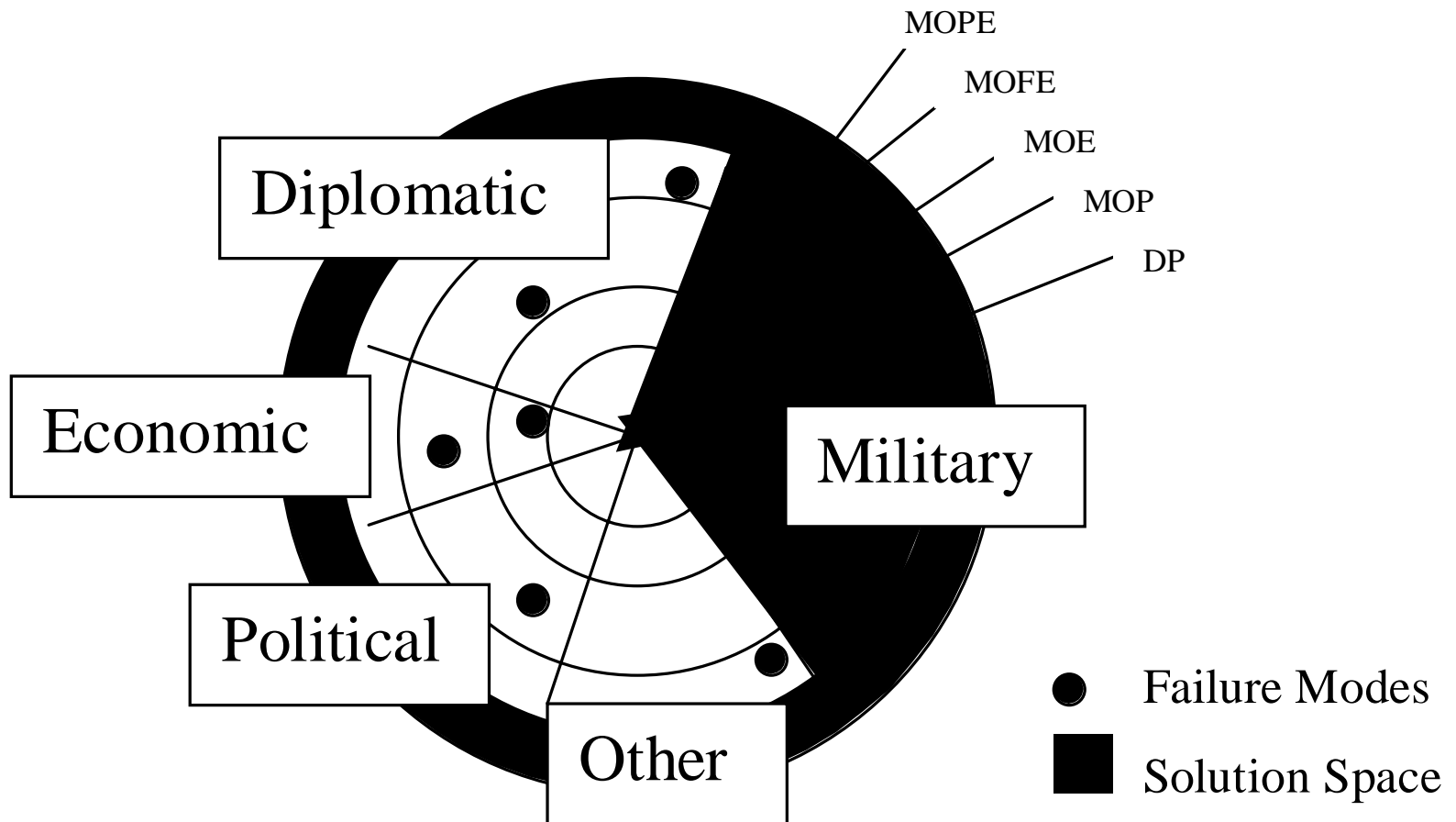
- ❁ Phasing of SSC scenarios
 - ❁ Task breakdown, and thus MoMs, may be different in different phases
- ❁ Surrogate MoMs
 - ❁ Where it is not possible to establish a quantitative link between levels it may be necessary to use lower level MoMs as surrogates for higher level MoMs
- ❁ Military and Non-Military 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

	Step1	Step2	Step3	Step4	Step5	Step6	Step7	Step8
	Inputs	Campaign Options	Force Packages	Operational Analysis	Concurrency Testing	Total Force Structure	Costing	Risk/Cost Tradeoffs
Strategic Forecasting	5							
Force Generation Models				12	5			
Scenario ployout tools		8		11				
Problem Structuring	3	3	3					3
Force allocation / concurrency					1			
Task decomposition methods			1	1				
Checklists, databases & handbooks		37	37	37				
Historical Analysis	1		1	1	1	1	1	
Operational Support tools		35	35	35				



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