



MINISTRY OF DEFENCE

Joint Concept Note 2/12 Future Land Operating Concept



JOINT CONCEPT NOTE 2/12

FUTURE LAND OPERATING CONCEPT

Joint Concept Note 2/12 (JCN 2/12), dated May 2012,
is promulgated
as directed by the Chiefs of Staff

A handwritten signature in black ink that reads "Mr P Colley". The signature is written in a cursive style with a long horizontal stroke extending to the right from the end of the name.

Director Joint Forces (Concepts and Doctrine)

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FOREWORD

Throughout its evolution this Future Land Operating Concept has been closely co-ordinated with the Joint Operating Concept, and with the Future Operating Concepts for the Maritime and Air and Space environments to ensure that a coherent view of warfare development is reflected across the three Services. With all of the above in mind, it provides the Army with the context and the conceptual basis for the development of the 'ways' and the 'means' of Land operations. It is the foundation upon which operational doctrine and, from that, tactical doctrine, is to be drawn. It is the basis for the Army's Force Development including personnel, structures and equipment.

I strongly welcome this publication and I am extremely grateful to the original thinkers at the Development, Concepts and Doctrine Centre for their work.

The Army has a significant role to play on behalf of the nation in deterrence, prevention and capacity-building through engagement with allies and emerging partners. *In extremis*, we must be prepared physically, morally and conceptually to commit to operations in the nation's interest. History confirms that Land operations are critical to the resolution of the majority of conflicts, and in this respect the future looks no different. As we confront a new era of uncertainty, this conceptual work is essential reading.



CGS

6 Jun 12

PREFACE

Defence confronts a period of profound change out to 2030 as the UK finds itself at a 'strategic moment'.¹ There is a clear requirement to adapt, and respond, accordingly. This Joint Concept Note (JCN), *Future Land Operating Concept* (FLOC) embodies a collection of ideas which serve to drive increased effectiveness and efficiency within the land environment,² to ensure the relevance of land capabilities within the joint force, as well as informing policy makers, force developers and practitioners. FLOC is consistent with the Chief of the Defence Staff's and Commander Joint Forces Command's *How We Fight* paper,³ which provides the foundation for the *Joint Operating Concept*.⁴ FLOC also complements the Future Maritime / Air and Space Operating Concepts. It provides the contextual basis for military activity in the land environment through to 2030 and the land context for force development.

This operating concept focuses on the distinctiveness of the land environment, but recognises that the potency of the UK's military derives from: the criticality of joint operations, underscored with civil support in the MOD; close co-operation with other government departments; and more broadly with allies and partners. This JCN also acts as a basis for discussions with our principal allies and relevant international agencies as future operations will most likely be Combined, Joint, Intra-governmental, Inter-agency and Multinational (CJIIM).

Global Strategic Trends – Out to 2040 (4th Edition)⁵ and the *Future Character of Conflict* (FCOC)⁶ provide the foundations for the paper. These publications frame the context for defence in the future operating environment. Defence has clear direction in the National Security Strategy⁷ which

¹ Clarke M, *A Question of Security – The British Defence Review in An Age of Uncertainty*, Taurus I B, 2011, page 9. 'A strategic moment may be thought of as a confluence of different trends that are at once full of possibilities, but also difficult to interpret and liable to rapidly evolve, a time when major choices with long-term consequences cannot be avoided. In this case the coincident trends all touch the UK more sensitively than most of its partners. They bear on what have traditionally been implicit sources of strength for UK defence and security policy.'

² The land environment is inherently joint. Both air and maritime support are vital to operations on the land. All personnel, regardless of service, who operate in, or support, land operations are encapsulated in the term *land environment*. The word land refers to the environment in which they are operating, not the institutional part of the UK's Armed Forces that are providing them. With regards to the littoral, it straddles both the maritime and land environments.

³ DCDC, *How We Fight: The Role of Military Power in Achieving National Objectives*, May 2012 (Draft).

⁴ The *Joint Operating Concept* is due to be published late 2012 / early 2013.

⁵ DCDC, *Global Strategic Trends – Out to 2040*, 4th Edition, 2010.

⁶ DCDC, *Future Character of Conflict*, February 2010.

⁷ *A Strong Britain in the Age of Uncertainty*, The National Security Strategy (NSS), October 2010, page 33. The NSS states 2 core objectives: ensuring a secure and resilient UK and shaping a stable world.

categorises and prioritises a range of security threats and challenges. The 2010 Strategic Defence and Security Review (SDSR)⁸ provided an aiming mark with Future Force 2020 and directed the military tasks to be undertaken.⁹ Strategic direction out to 2020 and beyond, has been drawn from Defence Strategic Direction which articulates the outputs required of defence. The Building Stability Overseas Strategy¹⁰ and the UK Defence Engagement Strategy¹¹ papers articulate the use of our defence assets to achieve influence internationally. Conceptual provenance draws upon the British Army's experimentation programme, Exercise AGILE WARRIOR.¹² Finally, FLOC is consistent with Army Doctrine Publication (ADP) *Operations* which lays out the philosophy and principles for the British Army's approach to operations¹³ and serves to inform Army 2020 work.

This paper is split into two parts and comprises four chapters. Part 1 provides the foundation for Part 2. Part 2 addresses the central question of how land forces will operate in the future. Chapters 1 and 2 focus on the context for land operations and the key factors affecting the land environment. Chapters 3 and 4 explain the conceptual approach to how land forces will operate in the future operating environment and examines the future roles of land forces out to 2030. Throughout this paper deductions are logically developed and highlighted in colour.

⁸ *Securing Britain in an Age of Uncertainty*, The Strategic Defence and Security Review (SDSR), October 2010, pages 9-20. The 8 National Security Tasks are expanded with detailed planning guidelines and are further defined through 7 Military Tasks and guided by the Defence Planning Assumptions.

⁹ The Army contributes to all Military Tasks with the exception of the provision of the nuclear deterrent. These are: defending the UK and its Overseas Territories; providing strategic intelligence; supporting civil emergency organisations in times of crisis, defending our interests by projecting power strategically and through expeditionary interventions, providing a defence contribution to UK influence, providing security for stabilisation.

¹⁰ *Building Stability Overseas Strategy*, DFID/FCO/MOD, 2011.

¹¹ The Defence Engagement Strategy seeks to maximise the potential benefits of the UK's unique defence assets in building global influence, and contributing both directly and indirectly to our security and prosperity. It focuses on conflict prevention.

¹² An authoritative evidence-based analysis of land capability within a Combined, Joint, Intra-governmental, Inter-agency and Multinational (CJIIM) context that contributes to the transformation of land capability and force structures across all lines of development.

¹³ DCDC, Army Doctrine Publication (ADP) *Operations*, 2010.

ABSTRACT

ADAPTABLE, INTEGRATED OPERATIONS IN THE FUTURE LAND ENVIRONMENT

This concept is founded on the uncompromising requirement for land forces¹⁴ to excel at warfighting. Deterring conflict will remain a central pillar of UK security policy and a crucial role for land forces. The credibility of deterrence depends on political will and the capability to defeat the gravest threats.¹⁵ Accordingly, the land force must be configured to defend robustly, and if deterrence fails, be ready to apply decisive lethal force to set the conditions for political progress. The land force must have the ability to intervene, in concert with the other services, to fight and win the nation's wars. The sources of resource competition, confrontation and conflict are increasing and will continue to drive a requirement for the land force to provide political choice in the defence of the UK's vital national interests. Therefore, the land force must maintain a credible, and demonstrable, persistent capacity to defeat adaptive, hybrid¹⁶ adversaries; predominantly amongst the population, on ground and with methods of their choosing, and have the capability to secure resources and people. This decisive warfighting effect also underpins the credibility required to operate with partners and allies as well as serving to reinforce our influence internationally, thereby, increasing political options. Credible hard power provides the foundation of soft power;¹⁷ *defence engagement* makes a key military contribution to this. The land force's contribution to defence engagement is instrumental in providing textural understanding, capacity building, reassurance and influence in support of building stability overseas.

¹⁴ Marine (including amphibious), air, Special Forces and logistic elements all require access to land, or at least the effects of some of their activities are likely to be realised there.

¹⁵ Except in the cases where there is a need to defend overseas sovereign interests, the UK would invariably seek to undertake defence of our territory and interventions overseas, upstream or, in an established confrontation, through alliances and partnerships.

¹⁶ In future conflict, smart adversaries will present us with hybrid threats (combining conventional, irregular and high-end asymmetric threats) in the same time and space. Conflict could involve a range of trans-national, state, group and individual participants who will concentrate, and operate, both globally and locally. DCDC FCOC, page 13.

¹⁷ For definitions of hard and soft power, see lexicon.

The capability to conduct demanding, decisive combat operations and contribute to defence engagement requires both an adaptable and integrated approach;¹⁸ both themes are threaded throughout this concept. This approach supports the contribution of the land force (as part of the joint force) to UK resilience. This JCN also recognises that the future application of the manoeuvrist approach will have to account for a range of audiences and actors within, adjacent to and dislocated from, the areas of operations. Additionally, manoeuvre itself will be about seeking to gain advantage over an opponent in the information dimension as well as the traditional dimensions of fire and movement combined with air power.¹⁹

The FLOC is underpinned by six subordinate ideas:²⁰

- **Understanding.** The land force must have the ability to develop an understanding²¹ in order to exert influence in the extended battlespace. This requirement ranges from a strategic *find* function integrated with other government departments, to protracted engagement by individuals immersed in societies over time. The increased emphasis on decentralised operations will also demand greater localised situational understanding to exploit the initiative and opportunities.
- **Terrain.** The land force must be able to fight and operate in the most likely and complex environments (especially the urban and littoral) and bring a decisive effect to bear amongst the people. Adaptable land forces must remain proficient in operating in terrain extremes if global reach and power projection requirements are to be effective.
- **Interdependence and Interoperability.** The joint force is interdependent and must be able to integrate and operate with the

¹⁸ From a UK perspective, the integrated approach, rather than comprehensive approach is the preferred term as it is accepted across government. NATO uses the term comprehensive approach, which is broadly comparable to the UK's integrated approach, although integration implies a greater level of collaboration which may not always be possible during coalition operations due to national or organisational sensitivities. Joint Doctrine Publication 0-01, *British Defence Doctrine* (4th Edition), 2011, page 1-11.

¹⁹ Alderson A, *Influence, The Indirect Approach and Manoeuvre*, Royal United Services Institute (RUSI) Journal, Volume 157, No 1, 2012, page 39.

²⁰ *Interim Future Joint Operational Concept (IFJOC): Army Position*, LF/FDT/2/2/2/2 dated 05 August 2011, page 5.

²¹ Understanding is defined as: *in the context of decision-making, understanding is the perception and interpretation of a particular situation in order to provide the context, insight and foresight required for effective decision-making.* JDP 04, *Understanding*.

other levers of national power, and interoperate with a wider range of allies and partners down to the tactical level, collectively maximising unique strengths and offsetting vulnerabilities.

- **Initiative.** The land force must be able to seize, hold and exploit the initiative against an adaptable adversary in the land environment and develop the situation to a point of political advantage through decisive action.
- **Soldiers.** Notwithstanding the requirement for equipment, the land force must invest in making its soldiers (especially leaders) its core capability or 'agile edge'.²² The impact of terrain, interaction with the population and proximate lethality in the land environment makes leadership distinctively challenging and complex.
- **Command.** The land force must be able to lead, as part of the joint force, at a level that provides strategic leverage and campaign authority.

²² Agility is an aspect of flexibility, one of the ten principles of war. Flexibility is the ability to change to meet new circumstances. It requires an understanding of the need to respond to change and has 5 characteristics: versatility, responsiveness, resilience, acuity and adaptability. Agility – being quick and nimble – runs like a seam through all of them. Robinson T, Brigadier, *Agility – A Blue Print for the Flexible Force*, Exercise Agile Warrior Work Package 6, 2011, page 1.

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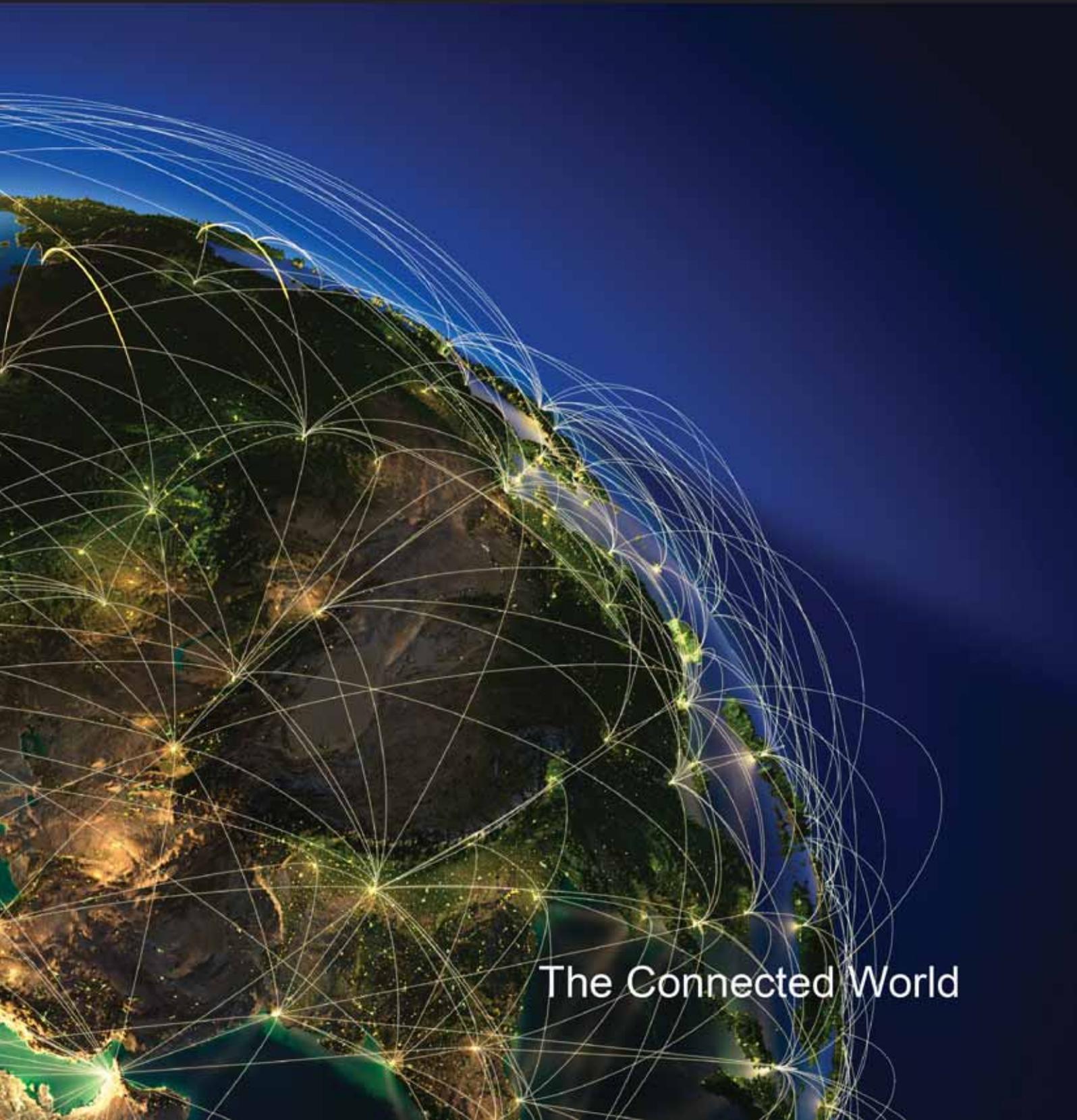
Lexicon

Part 1



Wars are not free-floating events, sufficient unto themselves as objects of study and understanding. Instead, they are entirely the product of their contexts. Their courses and outcomes must be influenced hugely by those contexts.

Colin Gray, *Fighting Talk*



The Connected World

The Future Land Strategic and Operational Context

CHAPTER 1 – THE FUTURE LAND STRATEGIC AND OPERATIONAL CONTEXT

The future character of conflict will challenge military forces structured and prepared for industrial-age war between global superpowers. Conflict is evolving, but it is not getting any simpler; the range of threats is actually expanding. Expanding our range of responses accordingly will be demanding without significantly more resource. The military instrument must be configured to deliver broad utility and we must better understand that the military instrument alone can rarely, if ever, deliver decisive strategic effect. Enduring success will invariably require the careful integration of all levers of national power.

Future Character of Conflict¹

101. In the period to 2030, the UK will continue to have global interests in an increasingly interconnected and globalised world. But this world, and the way in which we pursue our interests, will face continued change. Economic power is likely to shift south and east by the 2030s and the US will increasingly have an Asia-Pacific focus. Military power is likely to shift towards the emerging powers and security influence will diversify across a broader range of countries, many of which are historically resistant to the West. The rise of China and India, and the relative decline of Russia,² are likely to see a resurgence of *great power*³ behaviour. This rivalry between emerging powers could lead to renewed regional low-level conflicts, proxy wars, increased proliferation and resource competition.⁴

¹ DCDC, *The Future Character of Conflict* (FCOC), February 2010, page 34.

² Based on demographics, social challenges and likely economic trends. DCDC, *Global Strategic Trends – Out to 2040*, 4th Edition, 2010, pages 48-49.

³ Great powers are the most powerful countries, militarily and economically, in the global system.

⁴ *Op.Cit.*, *Global Strategic Trends – Out to 2040*, Executive Summary, pages 9-14.

Uncertain Realities

102. A foreseeable future does not exist but approximate precedents,⁵ enduring maxims, modelling, experimentation and trends analysis can provide grounded projections; however, all forecasting tools will remain speculative. An enduring truth is that the UK will continue to be faced with unexpected threats for which defence must be prepared to act. Uncertainty and complexity are enduring characteristics of war. Arguably, the world is becoming more complex with, *inter alia*, the rapid movement of ideas, people, capital and information; and the spread of networks, micro-structures with global reach, and increasing multi-polarity.⁶ Human interaction is also becoming more fluid as a consequence of the revolutions in communication technologies.

103. Complexity in the battlespace is not new and stems from war being an essentially human activity. It emerges from the number of soldiers and weapon platforms, and their interaction with the enemy, terrain and populated areas. The human, psychological, political, and cultural dimensions of conflict and the uniqueness of the local environment make military conditions on land inherently complex and uncertain.⁷ Command and organisation of land forces are, therefore, critically different from those in other environments. Increased complexity in the battlespace has also emerged as a result of the Combined, Joint, Intra-governmental, Inter-agency and Multinational (CJIIM) approach, the integration of assets at lower levels, technological advances and an increased emphasis on legal constraints.

104. Increasingly we live in a world of 'wicked problems',⁸ which are so complex that they defy process-driven management or purely scientific approaches. This does not mean that they are unsolvable, but that the approach must be open-minded, agile, flexible and adaptable to work through these complexities.⁹ In short, we need to be right enough in our approach and have the capacity to get it right quickly when adapting to a continuing stream

⁵ 'Past wars provide the only database from which the military learn how to conduct their profession: how to do it and even more important, how not to do it.' Howard M, Sir, *Military History and the History of War*, in: Williamson Murray and Richard Hart Sinnreich (eds.), *The Past as Prologue: The Importance of History to the Military Profession*, Cambridge: Cambridge University Press, 2006, page 13.

⁶ Coker C, *Rebooting The West – The US, Europe and the Future of the Western Alliance*, RUSI Whitehall Paper, Volume 72, 2009, page 75.

⁷ TRADOC Pamphlet 525-3-1, *The United States Army Operating Concept 2016-2028*, Chapter 3, 2010, page 11.

⁸ The term *wicked problem* was introduced by Horst W J Rittel in a 1967 lecture and subsequently elaborated more fully in collaboration with M W Webber in their *Dilemmas in a General Theory of Planning*, Policy Sciences Volume 4, 1973, pages 155-159.

⁹ Joint Doctrine Publication (JDP) 2-00 *Understanding and Intelligence Support to Joint Operations*, (3rd Edition), page 1-4.

of changing challenges.¹⁰ This ability to close the gap fast is critical and instructive in how land forces must configure and act. Furthermore, the land force (as part of the joint force) will be required to shape events with an assortment of military and civilian tools to increase the chances of turning bad outcomes into good, or at least better, ones.¹¹

105. The future land force must be designed to account for the diverse character of future conflict with greater emphasis on the application of philosophy¹² and an acceptance of uncertainties. It will not, for example, be a simple and clear choice between war and stabilisation, but a fusion of both. The complexity of modern conflict, allied to the dynamic nature of the information environment, demands an adaptable and integrated approach¹³ with a land force capable of regenerating to meet the inevitable requirements for sufficient mass, balance, persistence and specialism.

Threats and Risks¹⁴

It is a world with fewer violent conflicts and greater political freedom....international challenges can be managed with existing diplomatic, economic and to a lesser extent, military tools.

Zenko and Cohen¹⁵

106. As part of a cross-government approach, defence needs the ability to focus not only on specific threats but also better evaluate environmental factors to determine the root causes of, and catalysts for, the conflicts that produce these threats. Furthermore, a firm grasp of culture and the prevailing political and strategic situations – as an adversary perceives them – is critical.

¹⁰ Howard S, *Military Science in the Age of Peace*, RUSI Journal, Volume 119, March 1974, page 4.

¹¹ Extracted from Slaughter AM, *Reflections on the 9/11 Decade*, RUSI Journal, Volume 156, August/Sept 2011, page 6.

¹² *The Role of philosophy cannot tell us where to go but can tell us the best way to get there.* Coker, C, *Rebooting the West – The US, Europe and the Future of the Western Alliance*, RUSI, Whitehall Paper 72, 2009, page 50.

¹³ From a UK perspective, the integrated approach, rather than comprehensive approach is the preferred term as it is accepted across government. Joint Doctrine Publication 0-01, *British Defence Doctrine* (4th Edition), 2011, page 1-11.

¹⁴ Williams M, *Security Studies, reflexive modernization and the risk society.* Cooperation and Conflict, Volume 43, No. 1, 2008, pages 65-7 describes threat as: the urgent, direct, purposeful and violent characteristics stemming from actors with hostile intent. He describes risk as: looking into the future and characterising it by uncertainty, fluidity, probability and potentially serious consequences, but where a cost/gain analysis can be made. Quoted in Ritchie N, *Rethinking security: a critical analysis of the Strategic Defence and Security Review.* International Affairs, Volume 87, No. 2, 2011, page 364.

¹⁵ Zenko M and Cohen M A, *Clear and Present Safety*, Foreign Affairs, Volume 91, Number 2, Mar/Apr 12, page 83.

This would allow better anticipation of some risk that might be contained upstream, but also inform how defence communicates.¹⁶

107. Despite the future operating environment being hallmarked by volatility and uncertainty, the UK faces no obvious, or apparent, major state or existential, threat to her security and freedom.¹⁷ The possibility of traditional inter-state conflict may have receded for the UK, but it has not disappeared globally.¹⁸ State-on-state conflict will still be possible¹⁹ as regional rivalries erupt and the military hegemony and global reach of the US contracts. Indeed, our commitment to collective security through NATO brings with it obligations to our allies, even if the UK is not threatened directly. Furthermore, while there are some positive trends indicating that conflicts are becoming both less prevalent and intense, there is little sign that the demand for external provision of conflict prevention, stabilisation and peace-building support will decline anytime soon.²⁰

108. The contemporary character of conflict is highly complicated and the boundaries between the types of threat are increasingly unclear; but this is not new to warfare. We need to resist the temptation to compartmentalise or categorise conflict as, for example, 'conventional' or 'hybrid'. However, the notion of hybrid threats is useful because it forces consideration of the full range of conflict challenges. Future conflict is likely to continue to exhibit concurrent inter-communal violence, terrorism, insurgency, pervasive criminality and widespread disorder, as well as ground combat.

Hybrid forms of internationalised intra-state conflicts are prevalent, often overlapping with organised crime and elements of international terrorism.

Rathmell²¹

¹⁶ DCDC, *Using Conventional Capabilities to Prevent, Deter, Contain, and if Necessary Defeat Threats to UK National Interests*, SDSR Study, 5.5 Version, 2010, page 3.

¹⁷ *A Strong Britain in the Age of Uncertainty*, The National Security Strategy (NSS), October 2010, page 15.

¹⁸ The National Security Council considers, 'An international military crisis between states, drawing in the UK, and its allies as well as other states and non-state actors,' a Tier One priority risk. *Op.Cit.*, NSS, 2010, page 27.

¹⁹ For example, this may 'include the Korean Peninsula, the South China Sea, India and Pakistan, and Iran's disputes with Gulf States, Israel and the US.' Barry B, *Trends in Land War since 911*, International Institute for Strategic Studies Paper, 2011, page 10.

²⁰ Rathmell A, *A Question of Security: The British Defence Review in an Age of Austerity*, RUSI, 2011, page 23.

²¹ *Ibid.*, 2010, page 22.

This nexus of crime, migration and extremism poses a serious security threat within the international system. Cyber power²² is central to linking these criminal and extremist elements and confers on them an ability to operate and respond flexibly. The threat from cyber attacks by skilled and motivated individuals and state actors is likely to increase. Nationally, our dependence on technology for the machinery of government and commercial organisations will continue to be a source of advantage and vulnerability.

109. The joint force is likely to confront a significant emerging threat by adversaries contesting access into theatres of operation and the denial of lodgement areas needed for a deployed expeditionary force for support and sustainment. The joint force is likely to be opposed in all dimensions²³ with adversaries equipped with a range of capabilities from the unsophisticated, low-end, to comprehensive, layered and integrated defences. The emergence of adversaries who combine the structure and tactics of insurgents with high-end technologies further complicates the operating environment.²⁴ Attacks on the deployed force by swarms of unmanned air systems, surface-to-surface and theatre ballistic missiles are also likely in the future, while precision-guided mortars may constrain the operation of forward operating bases. The ballistic threat is increasing quantitatively and qualitatively with missile systems becoming more flexible, mobile, survivable, reliable and accurate. For states and non-states, ballistic missiles, employed tactically or strategically, offer an asymmetric response to adversaries with a conventional advantage.²⁵

110. Although national or international terrorism could result in mass casualties or damage to critical national infrastructure, their strategic effect is likely to be limited and can be managed in all but the most extreme cases. In short, regular and irregular approaches to warfare will be fused in novel and unexpected ways. This 'hybridised' nature of war reflects the essence of future warfare, and is aimed at exploiting our weaknesses by adversaries using a wide variety of techniques.

111. It is in the UK's national interest to support international order, build stability in regions where we obtain critical resources, and provide security to

²² For the definition of cyber power, see Lexicon.

²³ Maritime, land, air, space, information (including cyberspace), electro-magnetic and time. JDP 0-01, *British Defence Doctrine*, 4th Edition, 2011, page 2-13.

²⁴ *Gaining and Maintaining Access: An Army-Marine Corps Concept*, March 12, page 3.

²⁵ Stocker J, *The Strategy of Missile Defence*, RUSI Journal, Volume 156, Number. 3, 2011, page 58.

our supply routes. The most likely threats to this security will emanate from states that cannot adequately govern themselves or secure their own territory allowing malevolent forces to exist. State failure will be one of the dominant, defining features of future conflict, and dealing with such fractured or fragile states is, in many ways, the main security challenge to be faced in the next few decades.²⁶ The UK, in concert with allies or partners, may feel compelled to act decisively to restore stability or, at least, to contain the impact of instability to manage risks. Preventative engagement may help mitigate the occurrences and consequences of state failure and, in so doing, forestall these risks manifesting themselves in the UK. To provide early warning of these threats, coherence across the entire suite of national instruments is vital in gaining a comprehensive understanding of the problem. However, a sense of perspective needs to be taken as few threats will directly affect the UK. Furthermore, the costs of treating the root-causes by military means will sometimes be too high and there is a risk that intervention at scale could aggravate insecurity.

112. The proliferation of weapons of mass destruction amongst states and non-state actors will escalate the risk of conflict. It is likely, therefore, that the UK and its forces will fight enemies who use chemical, biological, radiological and nuclear weapons. This means that the UK must have the capability, with its allies, to deter and defend against (or indeed counter) such attacks.

Drivers²⁷

Continued degradation of regional and global ecosystems are likely to lead to more climatic extremes (rain, heat, storms), transformation (desertification, rising sea-levels) and shocks (pandemics). All of these will be enhanced by increased urbanisation, especially when this rests on a weak functional base, as it will in poor megacities.

Ries²⁸

²⁶ Gates R M, *Helping Others Defend Themselves – The Future of US Security Assistance*, Foreign Affairs, Volume 80, No 3, 2010, page 2.

²⁷ A driver is a factor that directly influences or causes change. *Op.Cit.*, *Global Strategic Trends – Out to 2040*, page 6.

²⁸ Ries T, *The Global Security Environment 2030 and the Military Missions*, Department for Strategic and Security Studies – Swedish National Defence College, 2010, page 20.

113. An increasing global population, emerging economies and rising standards of living are impacting on the world's resources. By 2029, there is expected to be a considerable increase in the demand for energy and the UK will be critically dependent on energy imports; securing them utilising all levers of power may be non-discretionary.²⁹ The developing world will continue to have political instability, inequitable wealth distribution and rivalry for natural resources, whilst its susceptibility to man-made and natural disasters will increase the need for future humanitarian intervention operations. The developed world will also be vulnerable to man-made and natural disasters. Food, water, energy and mineral scarcity increase the potential for violent conflict on land, with subsistence shortfalls creating the most immediate potential flash points. Resource security will become an increasingly important issue for government and defence forces. A resurgence in ideology and climate change will also be contributors to instability. Strategic shocks³⁰ will also occur, although their character, timing and detail remain unpredictable. The accumulative effect of climatic, political, and economic problems could precipitate significant, widespread and prolonged instability.

The Future Character of Conflict

114. The character of conflict is constantly changing. The *Future Character of Conflict* (FCOC) provides the baseline for the future operating environment. There is a broad consensus that the operating environment will be *congested, cluttered, contested, connected and constrained*. There is an increasing recognition of a sixth descriptor – *combined*.³¹ Conflict will be linked across large physical distances and the virtual domain. Maritime, land, air, space, information and electro-magnetic boundaries will be porous. This conceptual paper is based on the following FCOC assumptions:

- a. The UK has significant global interests and will wish to remain a leading actor on the international stage. Geographically, Great Britain is an island, but economically and politically, it is a vital link in the global network. The UK is not a continental power, although membership of NATO confers continental obligations. It is one of the most

²⁹ *Op.Cit., The Future Character of Conflict*, page 5.

³⁰ Strategic shock: 'high impact events that have the potential to rapidly alter the strategic context.' *Op.Cit., Global Strategic Trends – Out to 2040*, page 19.

³¹ In this specific case, combined means: *activities, operations and organisations, in which elements of more than one nation participate*. Allied Administrative Publication (AAP)-39, *NATO Handbook of Land Operations Terminology*, 2011.

interconnected nation states within the international system; our prosperity is dependent on the maintenance of a stable and rules-based world order.³²

b. The first responsibility of government will remain the security of the state and defence will remain the nation's ultimate insurance policy.

c. Future planning will be conducted against a background of finite financial measures while the military purchasing power of potential competitors is increasing and their pace of adaptation may outstrip ours. As a country with a major stake in international economic growth and a liberal trading regime, the UK suffers disproportionately from instability in the world economy.

d. The UK will act with others where shared interests and values coincide; we will routinely operate with allies and partners. The US and Europe will remain our major allies and trading partners. The Commonwealth provides our most global and diverse network of people-to-people links. NATO will continue to link the security of Europe and the US to the security of the UK. We will also have to become more accustomed to *ad hoc* arrangements and emerging partners.

e. Our adversaries are unlikely to engage us on our terms and will not fight solely against our conventional capabilities – they will seek alternative advantages and some will employ a wide range of warfighting techniques.

f. Much of the world's population now lives in huge, complex urban sprawls and since final resolution of conflict will involve people and where they live, strategic success will often, but not exclusively, be achieved through the results of actions on the ground. These actions are unlikely to be purely military although it will be vital for the UK to achieve military effect both on the land, and in the global commons.³³

³² The UK moves 92% of her trade by sea, invests \$50 billion of its own wealth overseas, accounts for 7% of global trade, and approximately 20% of UK citizens live abroad.

³³ The term *global commons* refers to the Earth's natural resources such as oceans, Earth's atmosphere and outer space that are not owned by a state. *Concise Oxford English Dictionary*, 12th Edition.

Adaptability and Integration – Operational Touchstones

Complexity calls for intellectual adaptability on behalf of strategists; uncertainty calls for practical agility on the part of armed forces; and urgency calls for the government to ensure that a broad enough range of capabilities and skills is in place and ready to use.

Cornish³⁴

115. The unpredictable future operating environment makes traditional threat analysis problematic, which in turn reduces the ability to set priorities, allocate resources and develop preventative strategies. Overmatching our adversaries will require land forces to optimise their professional ability to anticipate, learn, adapt and integrate. There is an overriding need to be greater than the sum of our parts, to find alternative ways and means, and to deliver ingenuity and initiative. Adaptability permits the rapid projection of a force capable of regenerating, reconfiguring and re-tasking in a complex and ambiguous context. The land force must have the capability to build mass through reserves, and integrate them effectively if the UK has to sustain an engagement in pursuit of its most vital interests. A force whose organisational design, capabilities and operational conduct is adaptable as well as integrated, will be best-positioned to respond to specific and unknown threats. Underpinning these operational touchstones is the need for resilience to allow the land force to recover from disruptive challenges and conduct consequence management.

Adaptability embraces the need to learn quickly, to adjust to changes in circumstances and to amend plans that are consequently unlikely to succeed. Adaptability starts with innovation, in particular using improvisation: finding alternative ways of doing things, imaginatively exploiting whatever is close to hand, often without extensive preparation.

Director General Land Warfare³⁵

³⁴ Cornish P, *Land Forces Fit for the 21st Century – Edging Towards Agility: Strategic Planning for the 21st Century*, www.chathamhouse.org.uk, 2011, page 6.

³⁵ Robinson T, Brigadier, *Agility – A Blue Print for the Flexible Force*, Exercise Agile Warrior Work Package 6, 2011, page 9.

116. Land forces will need to be adaptable, both physically and mentally. This mental adaptability is a fundamental pre-requisite to cope with operational uncertainties and the multiple challenges from intervention, through stabilisation, to capacity building. The future operating environment demands adaptable doctrine, training and structures to hedge against uncertainty and the unexpected. But rigorous prioritisation will be required in a resource constrained future. Adaptability allows the land force to decentralise, exploit opportunities, rapidly adjust to changing situations and develop situational understanding. It is key to seizing, retaining and exploiting the initiative.

117. The need for a well-integrated force is at the core of the paper entitled, *How We Fight: The Role of Military Power in Achieving National Objectives*.³⁶ The joint force is about integrating the distinctive strengths of the single services to succeed on operations. The character of future conflict will demand a broader operational approach involving other government departments and agencies; coherence will be fundamentally important. The future land force must be integrated at the lowest levels feasible to deliver operational effectiveness. Land forces will need to train and experiment with the other services, develop their capabilities together, and ultimately fight together. An embedded integrated approach will also be central to working within NATO or with our principal allies.³⁷ Any form of integration will require a predisposition to collaboration and co-operation as well as a structure to develop a shared understanding of a situation and its dynamics.³⁸

General Considerations and Deductions

118. It will continue to be in the UK's national interest to remain strategically relevant to the US. Continued engagement in NATO and the American, British, Canadian, Australian and New Zealand (ABCA) programme will continue to be important in building future coalitions to prevent, contain, or resolve conflicts which pose threats to common national interests and serve to link the respective militaries.

³⁶ DCDC, *How We Fight: The Role of Military Power in Achieving National Objectives*, May 2012 (Draft).

³⁷ For example, the Franco-British defence and security co-operation (specifically the Combined Joint Expeditionary Force) and more broadly, the need to re-invest in NATO.

³⁸ *Op.Cit.*, British Defence Doctrine, page 1-13.

119. Future effective European defence is likely to continue to depend on NATO and rely specifically on the 2010 Franco-British defence agreement.

120. The UK is uniquely placed to exploit wider partnerships, especially through the Commonwealth. Interoperability and interdependence will be key, especially in conceptual terms and equipment acquisition.

121. 'No strategic shrinkage'³⁹ means a need to engage closely with strategically important nations and organisations abroad, regardless of resource shrinkage.

122. The West's current economic uncertainty may result in a protracted and significant security deficit for the UK and, more broadly, Europe. Long-term financial austerity in the West is likely to impact on the collective investment in NATO; if there is a failure of investment in NATO, its ability to act coherently and effectively will be diminished. This brings new meaning for efforts to achieve interoperability and interdependence, especially in equipment acquisition.

123. Expeditionary military forces, capable of power projection across the globe, confer status as a 'pivotal power' on the nation, and influence international politics through their ability to shape global political processes to the benefit of the UK. States with armed forces that lack the means of effectively projecting their power on a global scale can exert only limited regional influence.

124. When conflict occurs on land it is likely to be where populations live, economies are based and governments rule.

125. The West's conventional dominance and leveraging of technological advantage will continue to erode and may disappear as early as 2020.

126. Counter-terrorism is likely to remain an important priority as some non-state actors will be undeterred or undetected.

³⁹ Hague W, Rt Hon, Foreign Secretary, Speech at the RUSI, 10 March 2010.

127. Rigid templates or paradigms, formulaic plans or the simplistic conflation of threats provide an inadequate response to dynamic and diverse strategic and operational realities.

128. Prescription should be limited to basic drills and structures; providing coherence to the body of individuals and creating space for freedom of action based on clear philosophy and principles.⁴⁰

129. To underpin the adaptable and integrated land force, resilience will be required to withstand, or recover from, disruption and endure if required. This must be reflected in the structures of its combat-ready elements.

130. Future land force structures, concepts, personnel and equipments must be able to respond quickly to uncertainty as the operating environment develops in new and unexpected ways.

131. The military contribution to gaining operational access will require an integrated approach across government, and in concert with allies.

⁴⁰ DCDC, Army Doctrine Publication (ADP) *Operations*, 2010, page 1-4.

CHAPTER 2 – KEY FACTORS AFFECTING THE LAND ENVIRONMENT

Every age has its own kind of war, its own limiting conditions and its own peculiar preconceptions.

Clausewitz¹

201. This Chapter will examine a number of factors affecting land operations, drawing on Clausewitz's dualism of the enduring nature and the changing character of war. Clausewitz's distinction between the nature of war, with its essential continuity and integrity, and the character of individual wars which vary, provides a framework of analysis to better understand and confront future challenges. When examining how land forces may operate in the future, there is a need for a historical context in understanding what is really new, as opposed to what appears to be new.² The character of war is certainly changing, but recent perceptions of change derive from the apparent disappearance of great power conflict with the collapse of the Soviet Union and the end of the Cold War. Our strong perception of change stems from the coming together of several, partly related, trends that may develop in different directions over time.³ Both the nature and character of conflict demand the ability of land forces to adapt readily to meet new circumstances and act in an integrated way.

Physical

Nature

202. The land environment is, and always has been, defined by terrain. Every kind of terrain has its own characteristics and, therefore, it will always have decisive effects on the planning and execution of land operations. Human beings can manipulate terrain by clearing it, obstructing it, or isolating and by-passing it. But ultimately they must engage personally with the physical world they inhabit. Variables such as climate, as well as deliberate

¹ Clausewitz K, *On War*, edited and translated by Howard M and Paret P, 1989, page 593.

² Strachan H and Scheipers S, *The Changing Character of War*, Oxford University Press, 2011, pages 5 and 9.

³ *Ibid.*, page 45.

alterations to aid or impede mobility for example, can affect activities on land. It takes very little for the trappings of technology to be stripped away.⁴

Character

203. In the future, we will be unable to avoid being drawn into operations in the urban and littoral regions where the majority of the world's population lives, and where political and economic activity is concentrated.⁵ In 2006, for the first time in history, the global urban population exceeded the rural population, and this trend is likely to increase out to 2040 with most growth in the developing world, especially in Africa and Asia.⁶ Most of these epicentres will be located in the littoral regions. This rise in urbanisation is unlikely to be matched by the creation of the necessary infrastructure. This will lead states and cities to seek international humanitarian assistance of unprecedented scale and duration.⁷ Demographic shifts to cities mean that these locations will become pivotal points for influencing regional, national and global risks; not least because cities attract extremists, terrorists and organised criminals as well as being the nexus point for different cultures, ethnicities, trade flows, and supply chains.⁸ Notwithstanding political reluctance for the military to operate in urban environments and our preference to avoid combat in this complex terrain, our adversaries are likely to choose to fight and capitalise on their strengths in it. The urban environment offers protection and concealment to our adversaries, and denies our traditional freedom of movement and command and control advantage.

⁴ DCDC, *Conflict on Land*, a paper by Head Land and Research, 2010, page 5.

⁵ DCDC, *The Future Character of Conflict*, February 2010, page 11.

⁶ UN World Urbanisation Prospects Database, 2007 Revision, quoted in DCDC, *Global Strategic Trends – Out to 2040*, 4th Edition, 2010, page 99.

⁷ DCDC, *Global Strategic Trends – Out to 2040*, 4th Edition, 2010, page 26.

⁸ Phillips M, *Urban Operations – How the Military can Contribute to Achieving Effect in the Urban Environment*, RUSI Report, 2012, page 1.

Political

War is not merely an act of policy but a true political instrument, a continuation of political intercourse, carried on with other means.

Clausewitz⁹

Nature

204. If war has utility, it is always as an instrument of policy and as such, it is in the land environment that the consequences of all military action will ultimately be felt. Techniques of warfare cannot be separated from the totality of political, social and economic conditions that determine the character and development of societies engaged in war. The sacrifices which UK society considers acceptable will be directly related to the perceived legitimacy of the operation and the perception of progress. Politicians will, rightly, continue to wish to conduct an 'unequal dialogue'¹⁰ with military commanders from the strategic to the tactical level. They must remain demonstrably in charge, while the military must advise on strategy and, with senior officials, on policy.

Character

205. Defence will remain aligned to the Foreign and Commonwealth Office for its operations overseas, and the Home Office in a domestic context. However, the establishment of the National Security Council represents a significant step in the political control of military operations. There is a growing imperative to understand the essentially political context and impact of conflict, and to appreciate the significant compression and blurring of the strategic to tactical levels. An intrusive and pervasive global media, with its rapid response time, will continue to have a profound effect on the political calculus. Tactical decisions will continue to have strategic effect; however, technology is likely to increasingly enable, and encourage, ministerial engagement in targeting decisions. This engagement will become difficult in large crises or when the National Security Council is slow to set up. As the communications landscape gets denser, more complex and participatory, the networked population is gaining greater access to information, more

⁹ *Op.Cit.*, Clausewitz K, page 87.

¹⁰ Cohen E A, *Supreme Command: Soldiers, Statesmen and Leadership in Wartime*, New York: The Free Press, 2002, page 248.

opportunities to engage in public speech and an enhanced ability to undertake collective action. In the political arena, these increased freedoms can help loosely co-ordinated publics to demand change.¹¹ The discretionary nature of conflict has come into sharp focus and the sensitive nature of public opinion, and hence political legitimacy, has become more acute.

Diplomatic

Nature

206. Historically, the UK has benefited from a long-standing and successful approach to collective security using a wide set of alliances and partnerships. These will remain a fundamental part of our approach to defence and security as the UK is likely to act in concert with others in the future operating environment. The UK's relationship with the US will clearly endure as *few issues in British foreign and security policy are more important than the strategic partnership with the United States*.¹² Although the US has shifted its strategic focus away from Europe, the trans-Atlantic relationship still forms part of the global security architecture and continues to be essential to the security of both the US and the UK. At the same time, however, this shift will require a re-examination of links and arrangements with other long-standing friendly nations, especially in Europe and across the Commonwealth. As articulated in the National Security Strategy, the UK will continue to guide its policies by its values, as well as by its interests.

Character

207. The UK will continue to intensify her bilateral defence and security relationships with a wide engagement of key partners on a range of security issues. In an increasingly interconnected world, a more active cross-government, multi-agency and multi-lateral approach is required in order to wield power. Although the UK may choose to act alone, in most cases land forces (as part of a joint force) are likely to operate within either: the political and military framework provided by NATO; in conjunction with other established allies and partners; or as part of an *ad hoc* coalition. Although

¹¹ Shirky C, *The Political Power of Social Media*, Foreign Affairs, Volume 90, Number 1, 2011, page 28.

¹² Aronsson L, *A Question of Security: The British Defence Review in an Age of Austerity*, Royal United Services Institute (RUSI), 2011, page 79.

alliances will remain value-based, some partnerships will become increasingly interest-based, discretionary and short-term. Where the UK's strategic interests are at stake, and where there may be moral reasons for intervention, it may become necessary to work with paramilitary groups to achieve an end-state that is in accordance with the national interests of the UK and its allies. Of note, the legality and legitimacy of intervention must stand, regardless of the relationship with such paramilitary groups.¹³

208. Both the European and Atlantic dimensions of UK defence policy will continue to be accorded the highest priority. Both the UK and France share the same strategic problems: preserving their international influence; assuming occasional leadership of European missions as framework nations; and doing all at an affordable cost.¹⁴ The maintenance of our longstanding relationship with '5 Eyes'¹⁵ partners will be critically important and will need to be reinforced. If the UK is to make a strategic common cause with the US, it must somehow bring influence to bear in some key areas that genuinely matter to both countries. Examples may include: regional stability in the Gulf and South Asia; nuclear non-proliferation; a new strategic partnership with India; and / or in pressing to keep global trade free and liberal.¹⁶ As the US shifts its focus to the Asia-Pacific, it is likely that the US will rely on NATO partners to maintain security in Europe and its environs.

Economic

Nature

209. Defence policies have always been subject to budget constraints, reflecting society's willingness and ability to pay for defence. A central historical truth remains that military power and economic power are inseparable. Successive defence reviews have reflected political choice and UK's changing economic position; defence spending has been afforded a declining priority, in relative terms, since the 1950s. Any reduction in defence spending will potentially weaken the UK's capacity to deter or coerce threats

¹³ Joint Doctrine Note (JDN) 4/12, *Intervention: Relationships with Paramilitary Groups*, due to be promulgated in June 2012.

¹⁴ Durand E de, *A Question of Security: The British Defence Review in an Age of Austerity*, RUSI, 2011, page 95.

¹⁵ US, UK, Canada, Australia and New Zealand.

¹⁶ Clarke M, *A Question of Security – The British Defence Review in an Age of Austerity*, I B Taurus, 2011, page 16.

to our vital interests.¹⁷ The UK's prosperity remains heavily dependent on its ability to act as a hub for global trade and a centre for international finance and business. Its markets are internationally focussed, heavily dependent on extant global mechanisms and ultimately reliant upon stability of the international system and the free flow of goods and capital.

Character

210. The current economic deficit represents the single biggest strategic risk facing the UK.¹⁸ This followed a period of sustained economic growth which provided for a more ambitious and globalist UK defence policy not seen for more than half a century. This fiscal downturn means that a prolonged period of austerity in public expenditure will lead to losses of defence capability and difficult choices. Affordability will become an increasingly important driver and will affect the conduct and length of operations. Interoperability, and increasingly interdependence, will become critical levers to provide economies of scale and efficiency. Defence and security in Europe has, for some time, attracted less importance with increasing scepticism about the utility of force, matched by levels of financial commitment. The contracting budgets of many western states contrast with the growing military spending and arms procurement that characterises the Gulf, the Asia-Pacific region and Latin America. Ultimately, for strategic success, defence ambition needs to be balanced with the economic power and ambition of the nation. The current fiscal downturn does not change this, but it does increase the tension because balancing military ambition and economic capacity is so much harder. In a resource-constrained environment, at full policy concurrency requirement, the most demanding and resource-heavy issue will be sustaining operations until a resolution can be found.

¹⁷ DCDC, *Using Conventional Capabilities to Prevent, Deter, Contain and if necessary Defeat, Threats to UK National Interests*, SDSR Research Paper, 2010, page 1.

¹⁸ Richards D, General Sir, Chief of the Defence Staff, *RUSI Annual Lecture*, 14 December 2011.

Legal

Nature

211. The UK recognises its obligations associated with belonging to the rules-based international world order, including being willing to play a constructive role in preventing and resolving conflict, normally under the auspices of the United Nations Security Council. The primacy of the rule of law, constraints on the unilateral use of force, the general principle of non-intervention in the affairs of other states and extending the same rights and responsibilities to all states are elements of this framework. Land forces must ensure that their actions are lawful and proportionate in order to demonstrate legitimacy to indigenous populations and allies, UK society and the wider global audience. In turn, this builds trust and authority. Achieving a common understanding with allies and host nations regarding the legal framework for operations, including rules of engagement, will remain an important interoperability objective. Additionally, it is essential if legality, and wider legitimacy, is to be preserved.

Character

212. In the complex battlespace of the future, western legal and societal norms will continue to place continued constraints on the conduct of operations. Recent operations, characterised as non-international armed conflicts (rather than traditional inter-state conflicts) have generated new demands to move from force-on-force superiority to less attritional approaches based on restraint, discrimination and proportionality. Fighting in this domain has generated a requirement to understand the application of human rights law to the indigenous civilian population where previously consideration had only been given to what is known as Geneva Conventions-based law. Legal issues will be exacerbated by the continued development of automatic and autonomous weapons systems, and interoperability issues with allies and partners with different judicial frameworks. Space and cyberspace operations may also raise legal issues with the difficulty of determining attribution and the provenance of a hostile act, making a legitimate counter-attack or response likely to be very constrained. Disciplined armed forces will remain a foundation block of operational effectiveness and an essential part of the legal and moral component of any

force. The legal implications and constraints that surround the joint force on operations will become more complex, and the ever-present and pervasive media will closely examine, and scrutinise, both individual and collective conduct.

Military

Nature

213. Clausewitz's dictum remains true that war is a violent contest within the realm of chance, friction and uncertainty. Victory is seldom won clinically and by controlled methods. Warfare has always generated its own momentum; it is inherently a messy business. Fundamentally, war itself is a 'clash of wills' and the most enduring constant is expressed in Fuller's concept of the 'Constant Tactical Factor' which swings 'from the offensive to the protective and back again'. The indirect approach has deep roots and will remain central to our warfighting philosophy. Land forces will seek victory by targeting the will and cohesion of the adversary. The indirect approach resonates with Sun Tzu's philosophical approach to subdue the enemy without fighting and is espoused in Sir Basil Liddell Hart's 'strategy of the indirect approach'. Asymmetric warfare has become associated with non-state actors who recognise that professional armed forces trained for manoeuvre warfare will prevail in conventional operations and, as such, reject direct confrontation. However, fighting that plays to strengths and seeks to expose vulnerabilities of opponents is not new. Approaches tend to be irregular and unconventional,¹⁹ and war will always be about seeking advantage by seeking asymmetry. Similarly, the theme of 'hybridity' in war does not, *per se*, represent a new kind of war or, signify a radical departure from the past.²⁰

214. Armies generally require mass²¹ to operate against each other and this requirement increases in complex environments or amongst large numbers of people. Indeed, throughout warfare, momentum has been achieved through a combination of mass (quantity enhanced by quality) and velocity (direction and speed). The ability to conduct what is called combined arms manoeuvre

¹⁹ Strachan H and Scheipers S, *The Changing Character of War*, Oxford University Press, 2011, page 5.

²⁰ Latawski P, Dr, *Marching to the Drumbeat of Intellectual Fashion: Hybrid Warfare*, 2010, page 5.

²¹ Mass can be achieved in a number of ways: alliances, coalitions, reserves and through joint assets (massing firepower).

is, and always has been, at the heart of an army's ability to fight effectively. This term indicates that action is being undertaken by several 'arms' (for example, infantry, armour, aviation, artillery or engineers) in concert, at the same time and in the same battlespace to achieve a given goal. Coalition warfare, and the training of indigenous forces, is not new and feature prominently throughout our history, although the extent and significance of both multinational operations and capacity building may appear to be new. Finally, armies have always expanded in times of crisis, and contracted as perceived threats, or defence spending levels have reduced. This fits with the deep and well-established historical practice of preparing to be adaptable to meet the widest array of future challenges.

Character

215. The primary purpose of land forces remains the application of fighting power; however, there is now a greater emphasis on understanding, non-lethal effects and manoeuvring in both traditional and novel dimensions. Conflict is likely to involve economic, cyber and proxy actions as well as direct military confrontation. Mission command is an evolved term²² that incorporates decentralised command and control, and command by influence. This command philosophy, with its reliance on initiative, the acceptance of responsibility and mutual trust, remains critical in highly dynamic and decentralised operations in a Combined Joint Intra-governmental, Inter-agency and Multinational (CJIIM) environment, particularly against irregular threats. The criticality of identifying the vulnerable points of an adversary, and their organisation, will remain but, they have become increasingly hard to define, especially in the context of irregular, sub-state conflict. Consideration needs to be given to a multiplicity of actors and audiences when prosecuting future operations. Finally, key enablers from the joint force will increasingly support combined arms manoeuvre.

²² Mission command's immediate provenance resides with the *Wehrmacht* in both world wars but whose origins can be traced back to the Napoleonic Wars.

Technology

Nature

216. Technology has had far-reaching effects throughout the history of warfare and will continue to be a fundamental enabler. Advances in military technology have always been closely related to the vastly accelerated pulse of technological development in general.²³ However, history has shown that unquestioning faith in technology, and exaggerated claims on what it can achieve, has had two effects. First, to forget that war will always be uncontrollable, unpredictable and brutal; and second, to repress creativity and imagination. 'Unsurpassable' battlefield advantages have, in the past, been eclipsed by human ingenuity. The combined analysis of surveillance and information products have improved situational awareness, but the ability to share information and apply combat power will not be enough to deliver success against the determined, adaptable enemies in complex environments envisaged in FCOC. Technology, exploited in well chosen discrete areas, will continue to offer tactical advantages to high-spending nations. However, as technology develops and proliferates more rapidly, the benefits will no longer be universal or as long lasting. It remains axiomatic that the greater the dependency on technology, the greater the risk to an operation when it fails and that technology will remain dependent on human competency to operate it effectively.

Character

217. Technology is changing faster than ever and, in many fields, is driven by commercial sector investment, requiring adaptation to technology rather than developing it with industry; this may, in turn, lead to commercial 'spin-offs' but may also be exploited by adversaries. Reliance on the high-cost, high-performance part of our economy as an advantage will no longer be valid. We must find different mutations more fitted to our requirements and constraints that balance quantity with quality. These mutations must by necessity be parasitic on the available world knowledge and various equipment markets. Weapon systems will continue to improve incrementally in terms of effect, accuracy and range, enhancing the ability of commanders to deliver proportionate effect in the constrained environment envisaged in

²³ *Op.Cit.*, Gat A, page 38.

FCOC. However, recent conflicts have upset the traditional balance of power in high-tech warfare. Adversaries can cause devastating damage through the innovative use of low-cost weapons, effectively neutralising the benefits of advanced weaponry.

218. The proliferation of technology will be increasingly difficult to control and both sophisticated, and unsophisticated, adversaries will have access to a wide range of emerging technologies that will enable them to pose credible challenges to our future security. Major technological advances are expected; for example, in the domains of information communications technology, nano-technology, bio-technology, new energy sources and power management, novel materials and advanced manufacturing techniques, sensors and networks, and understanding behavioural sciences. Progress in quantum technology could produce disruptive changes in information processing, encryption and sensing; making it a potent threat in the hands of others.

219. The combination of unmanned systems (both in the air and on the ground), advances in precision weapons and the development of novel effects technologies will pose significant opportunities for achieving strategic and tactical reach, precision and endurance but those opportunities will also be seized by adversaries. The use of anti-satellite weapons systems will capitalise on our reliance on the use of space, causing either permanent damage or destruction of target satellites. Equally, our critical digital information networks (and the data contained within), platform control systems and people will need to be protected against cyberspace attacks and exploitation.

220. Our forces depend on computer networks, both in the UK and on operations around the world. Our adversaries will present an advanced and rapidly developing threat to these networks. Modularity and commonality are powerful tools in designing a force structure, but less useful in a heavily modified force; new methods of cost management must be invented. True 'operational advantage'²⁴ from the use of technology will only be gained if it is integrated into a systems-based approach to deliver a versatile and agile military capability, optimised across all defence lines of development and

²⁴ *National Security Through Technology: Technology, Equipment, and Support for UK Defence and Security*, Cm 8278, 2012, page 25.

enabled through the adoption of open standards and architectures. Sharing and developing appropriate technologies with allies will also help ensure interoperability.

Personnel

Although our intellect always longs for clarity and certainty, our nature often finds uncertainty fascinating.

Clausewitz²⁵

Nature

221. An army that is out-thought is invariably out-fought; and for a small army, this is particularly true. As the physical shrinks, and the moral is assailed, so the conceptual must grow in counter-balance. Despite a century of extremely rapid technological change, the world's most sophisticated and adaptable instrument of war is still the human-being. The need to leverage human characteristics such as boldness, initiative, innovation and adaptability as well as to exploit tempo, shock and surprise remains valid. Effective command and leadership has always been critical; the ability to make the right decision, at the right time, at the right level, and have the powers of leadership to see it through withstands the test of history. War will continue to have many potentially correct solutions, not just a single optimal solution, that is arrived at through the military leader's imagination, creativity and intuition.

Character

222. The complexities and nuances of the future operating environment require that we make our people, especially our leaders, our 'agile edge' with a renewed emphasis on training and, especially, education. We must shift the institutional emphasis from equipment to people as the core land capability and build capacity for strategic thinking at defence level.²⁶ This, however, places a high premium on better education and training in the integrated, joint

²⁵ *Op.Cit.*, Clausewitz, page 86.

²⁶ Complementary to the June 2011 Defence Reform Report, *An Independent Report into the Structure and Management of the Ministry of Defence* recommendation that: ...the Department should afford greater priority to managing its 'human capability' as a strategic resource, to ensure a better balance with its consideration of equipment capability.

and land environments. The new generation of officers must guarantee a future force which is not only adept at modern battlefield manoeuvre, but one that is professional at 'cognitive manoeuvre'. Future staff officers must be able to fuse information and deliver evidence-based analysis to inform the commander's decision-making. There is an increasing requirement for the application of 'deliberate rationality'²⁷ as a mode of reasoning. This is essential to resolve the 'wicked problems' identified in FCOC characterised by uncertainty, complexity, ambiguity and volatility. Deliberate rationality requires a thorough understanding of pre-existing and codified knowledge, coupled with the intellectual confidence and ability to challenge institutional assumptions where they do not work, and to improvise 'situationally-sensitive maxims for guidance'.²⁸

223. Thinking leaders must be able to innovate, seize and hold the initiative, and make decisions cognisant of identified and mitigated risk. This will require the development of professional expertise in novel and core competencies at optimal career points, in particular, fusing and analysing information to develop understanding and to inform decision-making. Leaders will have to be able to operate in ambiguous, complex and uncertain conditions; and confront problems that are unique and localised. There will be a greater emphasis on understanding and empowerment. Recent operations have established the need to fully address the human aspects of operations including the moral, cognitive, and physical components of the human dimension. Training of personnel will increasingly be conducted using synthetic technologies to simulate complexities in a range of environments. A re-invigorated Reserve force, integrated as part of the whole force, will play a greater part in the future delivery of the Army's output.

Logistics

Nature

224. The ability to prosecute a successful expeditionary campaign has been contingent on logistics. Equally, it has been long understood that the lines of communication are vulnerable to attack and the perennial problem of military

²⁷ A mode of thinking that blends analytical perspectives with 'interpretive, critical and imaginative skills in situating and resolving problems'. *Honing Defence's Intellectual Edge*, RUSI Journal, Volume 156, Number 2, 2011, page 8.

²⁸ *Ibid.*, page 8.

movement leads to an enduring reality of modern warfare; the more technologically sophisticated the force, the greater becomes its logistical dependency. Traditionally, armed forces have been reliant on stockpiling ammunition and materiel. Throughout history, logistic 'tails' have restricted the scope to manoeuvre, and the higher the logistic footprint and demands, the greater the operational costs of deployment. Sustainment through a hub-and-spoke network provides an enduring model, but will require considerable re-structuring, investment and further experimentation to confirm its continued utility.²⁹

Character

225. Land operating areas will continue to be problematic to define, sustain and secure. There are no rear areas and logistic activity will be increasingly more difficult in a non-linear battlespace. As a result, defence will have to take greater account of threats to logistic 'home' bases. While demand, distance, destination and duration may remain valid, a fifth 'D' – dispersion – is also relevant, and reflects the scope and volume of the organisation to be sustained across all combat service support functions. Consequently, there will be an imperative for enhanced information and understanding, command and control structures, and importantly, organic force protection for those combat service support elements.

226. There will be an increasing need to innovate rather than just plan and to be more versatile in trade and technical training, as well as the management of material requirements. 'Just-in-time' supply methods have been widely used in the commercial sector for some time; this approach has been adopted comparatively recently by defence. Although it offers a more efficient alternative to expensive stock management, over-reliance is likely to attract mission-critical risk and catastrophic non-availability. The future support chain will be dependent on a number of critical support and technological enablers (such as satellites). With the internationalisation of the UK defence industry, greater outsourcing by MOD, and the deployment of ever more complex equipments, there is an increasing reliance on key materials, components and manufacturing processes outside defence control. Similarly, the defence support network is reliant on logistic information and information management systems; and this dependency will present a

²⁹ Exercise AGILE WARRIOR 11, *ADF Report*, 2011, page. 4.

significant vulnerability. Finally, novel and innovative support solutions will continue to present new challenges for logistics and a greater requirement for logistic coherence.

Information

Nature

227. The need to acquire information has always mattered. As far back as the Fifth Century BC, Sun Tzu recognised the importance of information superiority. The fundamental requirement to provide information to a commander to enable a decision and then disseminate that decision is enduring. Similarly the need to understand the context of the information to ensure effective information management and exploit it remains unchanged.

Character

228. Information, its availability and our desire to gather it, is a defining and complicated characteristic of today. It shapes our cognitive environment and it should, therefore, shape the way we view manoeuvre.³⁰ Advances in technology have not changed the nature of information flow, but have changed the character of it. Technology has enabled greater storage and manipulation of information which can now be transferred almost instantaneously, over greater range, in greater volume and in a variety of formats.

229. There have been a number of technological advances (sensors, vehicles, information storage, retrieval, transmission and information sharing) that have led to step-changes in the potential of information and intelligence to empower military activity. What were once strategic assets are increasingly being employed to collect intelligence at the operational and tactical levels. The information requirements operating across the mosaic of conflict³¹ will be wide-ranging, challenging and, therefore, require different communication information systems architecture using novel approaches to bandwidth usage, especially when deployed in populated areas. Adaptable

³⁰ Alderson A, *Influence, The Indirect Approach and Manoeuvre*, RUSI Journal, Volume 157, Number 1, 2012, page 40.

³¹ 'Most conflicts will require concurrent, overlapping or connected military activities, sometimes in adjacent streets. The relationships between these activities and conflict makes a mosaic. A mosaic is formed by small pieces, all of which are required to see the full picture.' DCDC, Army Doctrine Publication (ADP) *Operations*, 2010., para 0305.

adversaries will contest the electromagnetic spectrum in evermore inventive ways. A signpost from recent operations is that a connected environment requires agility and creativity in the strategic communications domain. Land forces must become experts at navigating and prioritising in this field to wield information as a weapon. We, collectively, must be able to engage and communicate via multiple means to better influence events.

230. The UK's use of cyberspace³² is characterised by increasing levels of reliance as government, commerce and individuals seek to gain benefit from the significant advantages of our increasingly networked society. With this growing dependence, however, comes an increased level of exposure and vulnerability. For example, power and water supply, food distribution, financial services, broadcasting, transport, health, emergency, defence and government services would all suffer if the national information infrastructure were to be disrupted. The low cost and largely anonymous nature of cyberspace makes it an attractive domain for malicious actors. These include criminals, terrorists, and hostile states, whether for reasons of espionage, influence or even warfare. Cyber will play an increasing part in future warfare. We must learn to defend, delay, attack and manoeuvre in cyberspace, just as we might on the land, sea or air and all together at the same time.³³ The full implications of a networked population in future conflict, specifically in proximity to civilian populations, will make surprise at the strategic, operational and tactical levels more challenging to achieve.

231. Land forces must be able to protect their systems and information from cyber attack and intelligence-gathering activities. Systems should be designed with adequate protection and resilience; staff must be trained in 'cyber-hygiene' and active defensive measures must be in place to deter, prevent, assess, respond and recover from intrusions and attack. Situational awareness of our networks, those networks linked to them, and networks in the area of operations will be essential. Additionally, land forces will often be dependent on national strategic assets, the Global Operations Security Co-ordination Centre, Joint Force Communications and Information Systems and allies for this information. Land forces must be capable of operating in

³² Cyberspace is defined as: *the interdependent network of information technology infrastructures (including the internet, telecommunications networks, computer systems, as well as embedded processors and controllers) within the information environment.* Joint Doctrine Note 3/12, *Cyber Operations – The Defence Contribution.*

³³ Richards D, General Sir, Chief of the Defence Staff, *The Times*, 10 January 2011.

reversionary modes through periods of denial of critical information systems, whether from cyber attack or other measures.³⁴

232. Long-term intelligence gathering and systems exploitation on potential adversaries will be the preserve of national agencies and the Joint Cyber Unit, but the land force will need to be able to access and exploit this information to support operational planning as well as being well-versed in tasking and integrating these assets to deliver effects in support of military operations. Tactical offensive cyber effects are often best achieved through strategic and operational reachback, although these may take some time to develop. A limited organic tactical offensive cyber capability is likely to be required to discover, exploit and attack the local information infrastructure, particularly where there are 'closed' systems not connected to the internet or where the internet connection has been severed. In this area, there is likely to be a close relationship between tactical cyber and land electronic warfare, and signals intelligence capabilities.

233. Cyber-war remains a highly problematic concept and it is likely that the greatest benefit of cyber-weapons may be using them in conjunction with conventional or covert military strikes.³⁵ In essence, freedom to manoeuvre in cyberspace will be critical to our future success on operations, particularly owing to our dependence on information technology.

General Considerations and Deductions

234. As domestic policy and international relations are hard to predict, the 'insurance policy' nature of land forces dictates that responses must be scalable and timely when circumstances or policy demand.

235. The philosophy of the integrated approach must be preserved; the National Security Council will be instrumental in achieving this pan-government.

³⁴ For example, directed energy weapons.

³⁵ Rid T and McBurney B, *Cyber-Weapons*, RUSI Journal, Volume 157 Number 1, 2012, page 12.

236. Operational support opportunities need to be aligned to maximise available resource and 'plug and play' interoperability with NATO allies. The integrated approach has potential to maximise benefits from partnership with allies, other government departments and non-government organisations.

237. The future force structure must retain its conventional capability to: deter, fight and win; underpin diplomatic efforts; and retain influence within a coalition.

238. There is a need to refocus land forces around strategic, integrated and long-term capacity-building, including: role specialisation focussed on the development of a foreign service career stream; conducting training in countries and regions that may benefit from our influence; and examining how our force structure might be adapted to integrate indigenous capacity in partnership.

239. Land forces must have capabilities, capacity, command and control, and organisations which, *in extremis*, may be called upon to contribute to national resilience by supporting civil agencies confronting disruptive challenges within the UK and Overseas Territories.

240. To maintain an agile edge, we must develop processes and structures that enable us to become better at learning from operations, training and allies.

241. As FCOC explains, securing resources and relevant infrastructure may be non-discretionary. If required, land forces, in a joint framework and in concert with allies, are the only military means that can physically secure these.

242. If land forces become more reliant on real-time surveillance, there will be a corresponding increase in the problems of bandwidth saturation and competition for access with the commercial sector.

243. With technology enabling the greater volume and integration of information, future land forces must develop greater expertise and capabilities in information management, exploitation and assurance.

Capability Considerations and Deductions

244. To achieve the strategic effects expected of land forces, Army force development will need to generate flexible novel structures and approaches that are able to generate mass and resilience in the land environment as economic and strategic circumstances allow and necessitate.

245. New technologies and capabilities will offer structural and force design options for land forces. These options must be developed and tested against defence outputs with timely *balance of investment* decisions taken at appropriate levels. There will be core land capabilities that must be retained, but many effects will be able to be achieved in very different and more cost effective ways.

246. The broad range of risks that the UK will confront in the coming decades requires balance and breadth within the land force. However, fiscal imperatives will necessitate risk being taken against some capabilities, which consequentially means that the ability to regenerate capabilities will be required to respond to unforeseen or rapidly evolving events. Capability areas, not just force structures, need to be held at readiness.

247. Capability planning will need to develop a land force that is balanced so that it can efficiently adapt to emerging threats and risks. To achieve this, the land force will need to make trades between defence lines of development and capabilities. Additionally, critical capabilities that are core will need to be identified along with those that can be reduced to a seed-corn and re-grown when required. Finally, the land force needs to identify those capabilities that can be deleted and only re-established if required again.

248. Our aspired position should be an adaptable land force that, while bound by the funding available, is ultimately not constrained at the point it is asked to operate.

249. The efficient use of affordable technology, combined with a greater premium on operating with partners and allies, provide the best foundation for delivering massed precision kinetic and non-kinetic capabilities effects.

250. The prioritisation of capabilities, matched to mandated defence outputs, will be required to allow timely and strategic balance of investment decisions to be made. A sophisticated understanding of how best to capture and mitigate the risk of existing capabilities will also be needed.

251. The development of taut requirements (including an understanding of threat, volume and quality) with agile procurement systems and processes underpins development and delivery. This can only be achieved with an industrial base that can work alongside defence in a flexible, partnered relationship.

252. Land forces will need to regenerate capabilities that are not held for the immediate future. Plans need to be developed to maintain technical expertise, keep skills and training going, and to work with allies and partners who do hold such capabilities with whom we can exchange personnel.

253. Continued investment in research and development is fundamental to innovation and adaptation. Short-term exploitation of research in support to operations is dependent on the existence of a long-term research base. Exploiting or countering technological advances will place a premium on an agile acquisition system.

254. Technology is increasingly available to all, reducing our technological advantage to gain overmatch. Investment in the novel application of system elements, rather than entire systems, is likely to gain us the greatest advantage.

255. The land component will operate in a CJIIM environment and must be able to fuse and share situational awareness by contributing to a common operating picture. This will be enabled through long-standing relationships with other government departments and cross-government bodies that must all routinely train together.

256. The importance of information superiority should be recognised and mainstreamed as a discipline – the land force needs to improve its information exploitation skills.

257. Land forces need to identify and exploit those additional defence capabilities that provide asymmetric advantages such as intelligence-gathering networks, integrated air power and air manoeuvre to ensure that they understand and fully use all of those areas where we retain an advantageous edge.

Training Considerations and Deductions

258. A focus on operating in the urban environment does not preclude the ability to operate in other complex and demanding terrain, such as in jungle, littoral and arctic conditions. This broad array of challenging environments should provide the basis for contingency training.

259. The requirements of the complex urban environment are markedly different from those of less fettered, open warfare. Changes in structure, doctrine and concepts will require corresponding adjustments in equipment and training. In turn, these will require investment in infrastructure and simulation in order to be able to train.³⁶

260. There is a need for physical and mental robustness to work against a wide range of threats in different conditions. This takes time and investment to develop, and requires embedding deep into the organisation's culture.

261. Adversaries will exploit our weaknesses in, and our reliance on, cyberspace. Land operations demand that all personnel understand our vulnerabilities within cyberspace, and actively train to be able to protect our freedom to manoeuvre in all domains.

262. Some of the core skills have atrophied due to focussing on one particular type of operation. Preparation for contingency operations requires diverse training across all military activities.

³⁶ *Exercise Urban Warrior II Final Report*, 2011, page 5.

Part 2



Combat is ultimately what armies are for. The primary purpose of an effective army should be the application of force, or threat of force, potentially through combat.

Army Doctrine Publication, Operations



CHAPTER 3 – THE CONCEPTUAL APPROACH TO LAND OPERATIONS

Nothing is more difficult than the art of manoeuvre. What is difficult about manoeuvre is to make the devious route the most direct and to turn misfortune into advantage. Thus, march by an indirect route and divert the enemy by enticing him with bait. In so doing, you may set out after he does and arrive before him. One who is able to do this understands the strategy of the direct and indirect.

Sun-Tzu¹

301. Having established the context in which UK land forces will operate, and considered the enduring and changing factors that will affect their development, this chapter explains the conceptual approach to how land forces will operate in the future operating environment. Firstly, the chapter describes how the manoeuvrist approach has evolved and examines its relevance to future operations. It also articulates how the information domain, which includes cyberspace, now provides a fifth dimension in which to manoeuvre to gain a position of advantage. Secondly, it describes the *understand to influence* framework and its constituent parts examined under the following headings: the Combined, Joint, Intra-governmental, Inter-agency, Multinational (CJIIM) approach; understanding; power; and influence. Thirdly, the imperatives of exploitation and initiative are covered at its conclusion.

Manoeuvrist Approach

302. The ability to use the manoeuvrist approach in future conflict will be more complex and require a greater cross-organisational approach. There will be a need to consider, and if necessary engage, the constituent parts of societies, both at home and abroad, as well as a panoply of interested parties. The manoeuvrist approach emphasises using and threatening force, in violent and non-violent ways, to influence behaviours in support of objectives. It remains an indirect approach which emphasises understanding and targeting of the conceptual and moral components of an adversary's fighting power.² It has long been considered the most effective way to defeat an opponent and

¹ Sun Tzu, *The Art of War*, translated by Samuel Griffith, New York, Oxford University Press, 1971, page 102.

² DCDC, Army Doctrine Publication (ADP) *Operations*, November 2010, paragraph 0107.

has evolved to place understanding and influence at the centre of the philosophy. It focuses on applying strength against vulnerability and recognises the importance of cohesion and will, in ourselves, our allies and our adversaries. As the operational environment evolves and increases in complexity and subtlety, the need for manoeuvre and influence grows. Influence must be a central part of the manoeuvrist approach and mission command, and the aperture of manoeuvrist thinking needs to be widened from the focus on adversaries.³ Future conflict is likely to involve multiple actors, agencies, audiences, and possibly adversaries.

303. Manoeuvre is now multi-dimensional; it is about seeking to gain advantage over an opponent in the information dimension (including cyberspace), as well as the traditional dimensions of maritime, land and air.⁴ This in turn requires the integration at a lower level of a greater range and complexity of capabilities, including joint, inter-agency and multi-national, with many of these previously regarded as exclusively for use as operational and strategic level assets. When manoeuvre is conducted amongst people and the infrastructure that sustains them, it makes influencing perceptions the central factor in success. This manoeuvring of the mind, rather than just physical movement, is a key element of the manoeuvrist approach.

Understand to Influence Framework

304. The *raison d'être* for armed forces is to fight, but they should also be able to threaten to use, or manipulate the idea of, force to shape perceptions and secure influence in pursuit of national objectives. They should do this in conjunction with the other levers of power.⁵ The *understand to influence* framework (Figure 3.1) is anchored on the three key and interrelated components of statecraft,⁶ *understanding + power → influence*. It is underscored by two imperatives: the need for exploitation which forms a core element of our approach to operations and training and the critical requirement to seize and use the initiative – the acme of operational art. Each component is pivotal to the land environment but it is the systemic application of this

³ Alderson A, *Influence, The Indirect Approach and Manoeuvre*, Royal United Services Institute (RUSI) Journal, Volume 157, Number 1, 2012, page 39.

⁴ *Deployable Divisional Headquarters - Concept of Employment* – dated May 2012. This document forms part of the Army 2020 Report, Part 8, Section 2 (Command and Control).

⁵ *Op.Cit.*, ADP Operations, page 1-4.

⁶ Joint Doctrine Publication (JDP) 2-00, *Understanding and Intelligence Support to Joint Operations*, 3rd Edition, 2011, page 1-7.

model that provides an operational approach for land forces in future operations. Understanding, power and influence will all need to be exploited in the construct and prosecution of future operations.

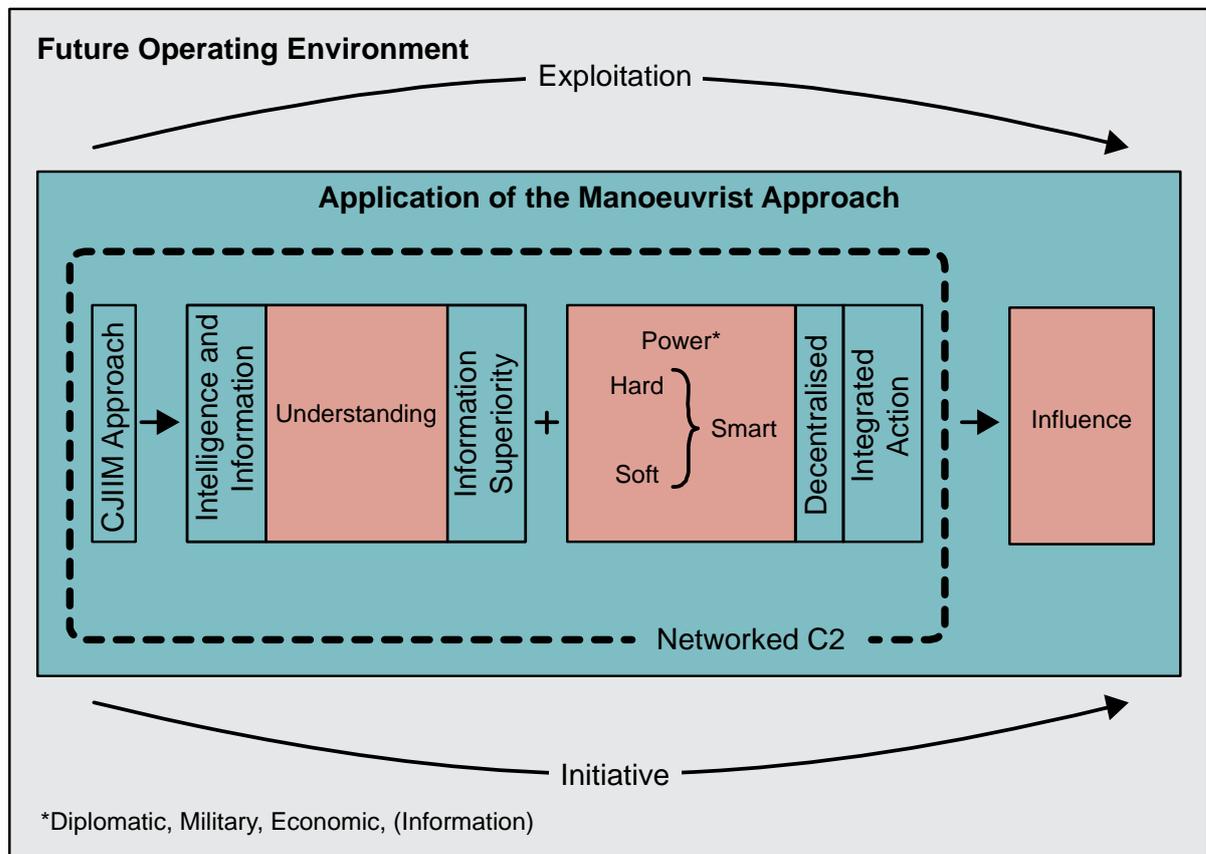


Figure 3.1 – Understand to Influence Framework

305. The capability to understand and to process information, combined with the application of both hard and soft power, produce the output of influence. Warfare, in all its guises, is essentially about influencing human beings and their perceptions. In short, the greater the level of understanding, underpinned by the ability to apply power, the greater the ability to influence.

A Combined, Joint, Intra-governmental, Inter-agency, Multinational Approach

306. The imperative to translate tactical and operational success against adversaries into strategic success demands better integration of our different levers of national power. This can be achieved by institutionalising a cross-government approach where focus is placed on integrated education and training, and the identification of the right incentives to encourage such

practices. A connected world demands more comprehensive responses as the norm. Maintaining an ability to act unilaterally remains extant, but interoperability with our allies and partners must become a default setting. Given resource constraints, this will mean selecting and focussing on all relationships, both new and old, while maintaining the breadth and adaptability to flex when land forces are called upon to act. Partnering should also extend more systematically to industry, academia and other agencies that provide access to capabilities that defence does not have in depth. The reliance on the *new employment model*⁷ project and its successors will deliver a flexible system that allows effective interchange and employment of service personnel with industry and international partners, allies and other government departments.

307. Combined arms operations, or combined manoeuvre, integrates a range of complimentary capabilities available in the land force. These combined⁸ capabilities increase fighting power to deter, coerce or ultimately disrupt, defeat or destroy adversaries. Land forces must maintain an appropriate mix of fighting power to deal with crises and conflicts that affect the UK's national interests. However, the land force will invariably operate with air and sea power in the future battlespace. Although greater service co-operation and integration has deep roots, the joint force will need to harness better the distinctive strengths of the respective services to maximise collective effectiveness on operations. Defence will require a contingent joint force at high readiness which is integrated at the lowest level.

308. The trend towards increasing multinationality will continue, notwithstanding command and control, and operating challenges caused by national caveats. Currently, the only institutionalised UK-led multinational headquarters is Headquarters Allied Rapid Reaction Corps (HQ ARRC). Headquarters ARRC is but one of seven NATO multinational, high readiness and deployable 3* land headquarters based in Europe. The indicators are that the demand for multinational operations will increase, with implications for force design, training and education. The challenges of achieving an effective common operating picture should not be understated. Multinational access to

⁷ The *new employment model* vision will be an employment model that delivers the required people component of operational capability that is affordable and supports the aspirations of service personnel.

⁸ Within the Combined, Joint, Intra-governmental, Inter-agency, Multinational (CJIIM) construct, the term *combined* does not equate to *multinational* as per JDP 0-01.1 *UK Supplement to the NATO Terminology Database*, 8th Edition. In this context, it means: *join together, unite for a common purpose*. Concise Oxford English Dictionary (12th Edition)

these products is likely to continue to be limited in some cases due to restrictive security criteria.

309. The *whole force concept*⁹ will mean that reserves, sponsored reserves, contractors and civilians will be an integral part of the land force alongside regular manpower operating in the future operating environment. Land forces must balance military agility with contractor efficiency, reservist specialist skills with regular personnel and civilian expertise with military knowledge. In doing so, we must protect our reputation and credibility (in order to coerce, deter and convince) through assurance of the whole breadth of land force's competencies. This will mean common and integrated training, education and force generation for the whole land force.

310. The adaptable adversary who is continually seeking to wrest the initiative from us, will target our vulnerabilities around the seams between the constituent forces and organisations in a Combined, Joint, Intra-governmental, Inter-agency, Multinational (CJIIM) environment. Given the uncertainty of future conflict and the reach of potential adversaries, who will seek to disrupt us concurrently at home and abroad, land forces must have both the capabilities and competencies to provide the lead military contribution to domestic resilience tasks in order to support the civil authorities in times of crisis. It is likely that the impact of adversarial action in the UK will be within populated areas.

Understanding

If I had an hour to solve a problem and my life depended on the answer, I would spend the first 55 minutes figuring out the proper question to ask, for if I knew the proper question, I could solve the problem in five minutes.

Einstein¹⁰

⁹ Whole force concept is a means to man a balanced force structure comprising of Regular and Reserve personnel, contractors and civilians, optimised to meet Defence's requirements.

www.mod.uk/DefenceIntranet/DefenceNews/DefencePolicyandBusiness/ReviewofReserveForcesGetsUnderway.html

¹⁰ Einstein A, quoted from www.fiftyfive5.com

The Pivotal Nature of Understanding

311. The need to understand is at the core of every operation as understanding provides the context for making effective decisions, applying power and managing associated risks as well as subsequent effects. Indeed, understanding has always been a critical enabler of the manoeuvrist approach and mission command. A lack of understanding of a situation on the ground not only means that political decision-making will be responsive to events, but that political direction itself will be more ambiguous. In turn, this makes planning and managing operations more complex.¹¹ If people's support and acceptance is central to our chances of success in future conflict, whether at home or during interventions abroad, understanding the people amongst whom we operate is vital. Military operations, especially in the land environment, will focus on influencing people, hence knowledge and situational understanding of how people from different cultures think, decide and behave will be required. For example, developing a better understanding of how urban areas function will be critical in future operations. As Gerwehr and Russell explain,¹²

Knowledge regarding physical and social infrastructure, power relationships, sources of economic health, and much else pertaining to a town or city and its relationship to the areas around it, is as crucial to the force achieving objectives as knowing the enemy.

312. The complexity of future operations will produce an increased need for contextual intelligence, which will use a range of sources to develop understanding of the operating environment, relying upon geospatial, cultural and linguistic capabilities for information collection.¹³ Intelligence assists the commander with the understanding on how best to achieve influence by hard and soft power across the spectrum of civil and military activities. It is important to recognise threats early in order to provide insight into the

¹¹ Phillips M, *Partners, Co-operation and Ad Hoc Relations: The Example of Libya*, Speech to NATO Legal Conference, Lisbon, 26 October 2011.

¹² Gerwehr S and Russell W G, *The Art of Darkness: Deception and Urban Operations*, RAND Arroyo Center, 2000 quoted in *Urban Operations – How the Military Can Contribute to Achieving Effect in the Urban Environment*, Phillips M, RUSI Report, 2012, page 3.

¹³ *Op.Cit.*, JDP 2-00, page 1-5.

complexities; this provides the broadest range of options to political leaders and military commanders about the timing / scale of committing any force.

313. The future operating environment will require a closer, and much deeper, immersion into the problem over a sustained period of time. Expertise in operational design, framing problems and becoming more innovative in dealing with complex issues will be key enablers to success in future conflict. Sufficient understanding of the full environment is vital for: preventing or deterring conflict; pre-empting threats; conducting risk assessments; developing good tactical comprehension; effective capacity building; and delivering an effective strategic narrative. Nuanced information, different perspectives and a better understanding of other actors provides the focus for human-centric skills and the interpretation of information and intentions. This must be complementary to, rather than just about, the gathering of data; for example, Intelligence, Surveillance, Target Acquisition, Reconnaissance (ISTAR) must be integrated with proximate and protracted human engagement in order to generate the right level of understanding.

314. Critically, understanding requires the ability to fight for information in both the physical land environment and the joint information domain. It also requires the ability to rapidly surge the right capabilities in order to improve, and then exploit, our understanding. It is a function of combining land / air / maritime efforts with those of other government departments and agencies with educated people who are flexible of mind and able to build relationships and networks. Given the imperative to exploit chaos, and to make sense of complexity once deployed, the land force, in a CJIIM context, must be able to contribute to a common understanding of the battlespace. Consequently, this leads to unity of effort, while reducing unintended second and third-order effects. Ultimately, a common understanding will enable the delivery of the right, and precise, effects in the land environment.

Information Superiority

Getting the right information to the right place at the right time, so that the right decisions are made and implemented, has never been more important.

Robbins¹⁴

¹⁴ Robbins B, *A Question of Security – The British Defence Review in An Age of Austerity*, RUSI 2011, page 236.

315. The importance of information as a tool to support national security and defence is widely acknowledged. Well-handled information superiority leads to significant improvements in operational effectiveness, and effective information management will be the key to successful decision-making in the future operating environment. Information will flow in unconventional ways and processes must be constantly developed, maintained and optimised to enable maximum information exploitation. Failure to do this will lead to 'information anarchy.'¹⁵ It will not be enough simply to seek to find methods of gathering more and more information or generating intelligence. Understanding is fundamentally about human-centric skills and interpretation of information, not just the gathering and processing of information. The new age of information exploitation not only demands a change in mindset but also the technological support to fuse relevant information together, based on its characteristics such as geography, time and human networks. Military personnel will also need to be better trained to understand and interpret this information.

Power

We need to draw together, and use, all the instruments of national power, so that the sum of the British effort is much bigger than its component parts.

UK National Security Strategy¹⁶

The Absolute of Power

316. National policy objectives are achieved through the coherent and effective application of the instruments of national power – diplomatic, economic, and military, underpinned by information which enables the application of all three.¹⁷ Power is defined as the factors that enable one actor to manipulate another actor's behaviour against his preferences.¹⁸ It is the primary means by which states, and other actors in the international system, are able to pursue their security influence. In short, power is the ability to

¹⁵ *Op Cit.*, JDP 2-00 describes information anarchy as this condition complicates commanders' abilities to identify and use the best information. Within headquarters, the ability to place relevant information quickly in its correct context should be the defining feature of an effective intelligence system. JDP 2-00, page 1-17.

¹⁶ *UK National Security Strategy*, Foreword, 2010, page 5.

¹⁷ JDP 0-01 4th Edition, *British Defence Doctrine*, 2011, page 1-5.

¹⁸ Kegley C W, Wittkopf E R, *World Politics, Trend and Transformation*, 9th Edition, 2004, page 37.

influence people or change the course of events.¹⁹ The traditional measures of power are being challenged by a wide variety of actors who are able to exert influence beyond existing state mechanisms.

317. The extent to which the UK can exert military influence depends on a combination of appropriately manned, trained, and equipped forces.²⁰ The application of force, or threat of its use, against elements seeking to erode security, helps to maintain the integrity and security of the international system and reassures populations and communities that may otherwise be at risk. Land forces are able to provide this reassurance to populations through their close proximity and, if required, persistent engagement.

318. A projectable warfighting capability on land is an important source of hard power and serves as a deterrent to potential opponents. If the ends can be achieved by persuasion rather than coercion, or prevention rather than intervention, the course of implied force, rather than applied force, should be taken. However, no such implication of force is credible if it is not reinforced by intent and capability. If the implication of force fails to influence sufficiently, there will be no choice but to apply it.²¹

319. Non-combat *defence engagement* is the military contribution to soft power. It may reduce or negate the need for military intervention to deal with emerging crises, develop an understanding of emerging threats, or provide broader humanitarian assistance. History has shown that soft power is generally slow in effect and more diffuse, although it is often cheaper and its effects may be more enduring than warfighting. Soft power is not, however, a substitute for hard power: the two are complementary. There is a need to re-prioritise *defence engagement* to reflect its increasing importance and to employ it positively, and imaginatively, alongside the other organs of government into a coherent whole. Ultimately, however, the carrots and sticks of hard power, especially the threat or actual use of force, have a value and potency of their own, especially in times of instability, conflict, or direct threats to the nation, or to its vital interests.²²

¹⁹ DCDC, *How We Fight: The Role of Military Power in Achieving National Objectives*, May 2012 (Draft).

²⁰ *Ibid.*, page 1-8.

²¹ *Op. Cit.*, *ADP Operations*, paragraph 0107.

²² *Op. Cit.*, JDP 0-01 4th Edition, 2011, pages 1-10/11.

Decentralisation²³

320. The application of force, or power, will still need to be concentrated, but increasingly in the future operating environment, there will be demands to decentralise it in order to act, and respond, faster than the enemy and to exploit opportunities. The manoeuvrist approach is underpinned by a command philosophy of centralised intent and decentralised execution that promotes freedom of action and initiative. In decentralised operations, collaboration and trust will be as important as command and control. It is about understanding the context of operations, and it recognises that understanding imparted from the lowest tactical echelon is as important as that provided at the strategic level. Instead of a top-down recognised picture, we will need to build our understanding from a multitude of bottom-up local perspectives. Mission command²⁴ is itself a form of command by influence and is focussed on the understanding of intentions, missions and context. As capability, authority and responsibility are decentralised to a lower tactical level, not all the risk must be delegated.²⁵

321. It should be recognised that decentralised operations may not always be the most appropriate philosophy of command. The promotion of freedom of action and initiative has undoubted use to combat complex and emergent 'wicked problems', but the full application of this command and control approach with its inherent risk and responsibility may be less appropriate where the nature of the problem is well understood and structured. The degree of implementation will be determined by the nature of the problem, its context and the levels of risk when influencing perceptions. Furthermore, as technology increases the level of access to information and the growing ability to share understanding, commanders will be better able to choose whether to centralise or decentralise execution.

²³ ADP *Operations* describes decentralisation applying to all levels and is an important facet of mission command. It allows subordinates to use their initiative within their delegated freedom of action. Decision levels should be set as low as possible. This permits decisions to be made swiftly in the confusion and uncertainty of battle, and is increasingly necessary in an environment dominated by ill-structured problems and multiple actors...It also reduces the need for all but essential information to be passed up and down the chain of command. ADP *Operations*, paragraph 0660, page 6-24.

²⁴ Since the early 1990s, the manoeuvrist approach has been supported by the philosophy of mission command. This philosophy is designed to promote a robust system of command, balancing unity of effort with freedom of action at all levels. It requires the development of trust and mutual understanding between commanders and subordinates throughout the chain of command. The exercise of command requires timely and effective decision-making based on initiative and creativity, leading towards the achievement of objectives and, first among them, a specified main effort. ADP *Operations*, 2010, paragraph 0623.

²⁵ Dempsey M E, *A Failure of Imagination – Critical Learning in the Armed Forces*, RUSI Journal, Volume 155, Number 3, 2010, pages 8-9.

322. Given that land forces are likely to be geographically dispersed by necessity, decentralisation by design will be a critical operating principle, for which we will have to plan and train through networked command and control, in order to maximise the creation and exploitation of opportunities. We must be able to mass organic, scalable, joint precision effect, at an increasingly lower level than hitherto, and we must be able to balance concentration of force with economy of effort. To achieve this, relevant information must be available at the lowest tactical level to enable situational awareness and collaborative efforts.

Integrated Action

323. Integrated action evolves from the *joint action* model which recognises the centrality of influence. Joint action is defined as: *the deliberate use and orchestration of military capabilities and activities to realise effects on an actor's will, understanding and capability, and the cohesion between them to achieve influence.*²⁶ The aim of joint action is to achieve influence in the right place, at the right time, in order to have effects which support the achievement of objectives. It is focussed on a range of actors including our own population and forces, allies, civilian partners and regional audiences, in addition to any adversaries. Joint action is set in doctrine and describes the deliberate use and orchestration of military capabilities and activities to realise specific physical and/or psychological effects. Joint action is implemented through co-ordination and synchronisation of: fires (physical or virtual means to realise primarily physical effects); information activities to manipulate information or perceptions of information to affect understanding; manoeuvre (used to gain advantage in time and space); and outreach including stabilisation, support to governance, capacity building and regional and key leader engagement. Military operations will continue to be executed using this approach but integrated action provides a framework for the integration, co-ordination and synchronisation of all military activity within the battlespace, across government, and alongside partners and allies. It recognises that defence's contribution will be vested in a wider governmental, or coalition, approach in achieving objectives. In common with the manoeuvrist approach, the primary object is to affect an actor's understanding, will, cohesion and capability.

²⁶ JDP 3-00 *Campaign Execution*, 3rd Edition, Change 1 (due to be promulgated summer 2012).

Influence

The Centrality of Influence

324. Influence²⁷ will be central to the conduct of future operations and is intrinsic to the manoeuvrist approach and mission command. It has evolved from well-established approaches that emphasise the importance of the cognitive rather than simply the physical. War, in all its guises, has always been about influence and all actions will bring degrees of influence to bear. However, the information environment, which includes cyberspace, provides a fifth dimension in which to manoeuvre to gain a position of advantage.²⁸ Influence is a goal of statecraft, and achieved when perceptions and behaviours are changed, or maintained, through the use of power. Influence is a result of action or activity, including when the decision is to do nothing. The contest of ideas, and perceptions of moral legitimacy, will continue to be central in future conflict. To prevail in this contest, the UK must be able to wield influence at all levels, across multiple media, within joint, multinational and interagency environments. States have limited capability to exert authority over other state and non-state actors; rather they must find ways to influence in order to achieve desired effects.²⁹ Even when an armed force has to be used, conflict will remain focussed on influencing adversaries, neutrals and those at home. However, there will be limits to our ability to influence, especially in countries with radically different cultures.

325. Influence is not just about messaging and media, but how audiences interpret and understand our words and deeds. Influence is a contest in which narratives compete to be heard and shape perceptions. The committal of military force has a profound influence, and the understanding of the influences the land force wishes to have from the outset, need to be planned, and then orchestrated, across all military activities. This is particularly the case for land forces operating where all actions are closely observed, and effects are nuanced. Soldiers and marines are able to sense and react to incidents or events on the ground, ranging from the effects of an air strike, to localised reactions to a peace agreement. Small sub-units, or individuals, can have disproportionate effect from the tactical to the strategic level through their

²⁷ JDP 3-40 describes influence as being achieved when the behaviour of a target group is changed through the combination of all words, images and actions. JDP 3-40, *Security and Stabilisation: The Military Contribution*.

²⁸ Alderson A, *Influence, The Indirect Approach and Manoeuvre*, RUSI Journal, Volume 157, Number 1, 2012, page 40.

²⁹ DCDC, *Global Strategic Trends – Out to 2040*, 4th Edition, 2010, page 30.

actions and, over time, land forces have a persistence and closeness that allows deep and enduring influence to be established. The committal of ground forces, from a single small training team up to a full-scale intervention, provides the nation with a potent influence tool for international engagement.

326. Operations, especially in the land environment, will continue to result in casualties and will face the challenge of demonstrating legitimacy in order to influence sceptical public audiences at home and abroad. Adversaries have recognised the strategic importance of influencing public perceptions and they will continue to develop and employ increasingly sophisticated methods. Therefore, the targeting process will remain a difficult and challenging activity as the demand for discrimination and precision continues to increase. Legitimacy of the force will depend upon comprehensive, accurate, timely and agile targeting, and this process must, therefore, be rigorously trained, debated and continuously scrutinised to ensure that it achieves the standards expected by our critics. During future operations, the additional pressure for legal conformity beyond the law of armed conflict is likely to increase in importance as a factor in operational planning and execution. Careful scrutiny to ensure compliance with all applicable law, both international and domestic, will be vital to ensuring the credibility of future land forces.

Exploitation

The Continuum of Exploitation

327. The fundamental requirement for land forces to exploit tactical victories into decisive operational success will remain. Furthermore, understanding, power and influence will all need to be exploited in the future operating environment. Land forces must be able to adapt in contact and exploit the chaos, so exploitation must become a core element of the future approach to operations and training. Achieving surprise may be extremely difficult in the new participatory information age, so there is an imperative to exploit all levels of information, in rapidly changing situations, and to interact securely with other government departments and allies. The need to understand the potential of harnessing and exploiting new technologies is not new, but adversaries are now able to exploit the same sophisticated technology, and the pace at which the gap is closing is unlikely to abate. Similarly, there will be a requirement to exploit comparative advantages, such

as in air manoeuvre, and in the newer environments of space and cyberspace. Finally, exploiting success is a key enabler in maintaining tempo and initiative. Understanding, coherence and the speed of response remain the precursors to exploitation.

328. There will also be a requirement to exploit deception.

There are no absolute secrets anymore – the key is to have multiple options up your sleeve, shroud them in deception and play your hand as late as you can.

Carter³⁰

Exponentially increasing connectivity and the growing ubiquity of ‘smart’ technology will make the future control of information increasingly challenging; nevertheless, opportunities for military deception will remain. Well executed and co-ordinated physical and / or psychological deception can generate decisive advantage and mask vulnerabilities. Land planners must carefully consider what information should be denied to a target audience, whether information needs to be deliberately corrupted or, if attempts should be made to overload an adversary with information. In parallel, the veracity of information must be securely established as potential adversaries use emerging and established technologies to mislead, falsify or distort information in attempts to induce actions prejudicial to the UK’s best interests.

Initiative

The Critical Initiative

329. The contemporary manoeuvrist approach requires a philosophy of command that promotes initiative. In future operations, it is unlikely that we will hold the initiative from the outset, nor will we have the optimal time to prepare for specific operations. Land forces must, therefore, compensate for this through horizon scanning, the analysis of indicators and warnings, and in our force design, education and training. We must have the ability to deploy rapidly to, and be sustained in, multiple and widely-dispersed locations. Anti-access challenges and the fight for information while in close contact with the

³⁰ Carter N, *Drawing Lessons from Afghanistan*, The British Army 2011, London: Ministry of Defence, 2011, pages 66-67.

adversary, and civilian populations, require the initiative to be seized. In order to influence the behaviour of people, or the course of events, seizing and holding the initiative applies equally, or even more so, to the cognitive domain as it does to the physical. Unlike other levers of national power, the nature of land operations means that, once committed, land forces may be persistently engaged; this can include kinetic and non-kinetic activity, or a combination thereof. To retain the initiative, land forces must be designed to anticipate, innovate and adjust to changing circumstances. To set the conditions for rapid adaptation, land forces need to be a learning organisation, whilst institutionalising capabilities that are still novel and enshrining relevant operational lessons. The agile acquisition of capabilities and common simulation architecture are the key enablers for this to be successful. The need to seize and hold the initiative will have to be balanced against the requirement to build understanding rapidly.

330. Within an increasingly complex (and legally/politically-constrained) environment, increased risk will be a prominent feature of the future operating environment. Not only will this occur in our preparedness to deploy, but also in regaining and retaining the initiative. Calculated risk-taking will be imperative across the joint force in the future operating environment. Force protection will continue to be about the identification, analysis and management of risk in order to enable, rather than constrain, freedom of action.

331. Land forces must be able to seize, hold and exploit the initiative against an adaptive adversary and develop the situation to a point of advantage through decisive warfighting effect. Land forces need the physical and mental robustness to work against a wide range of threats in different conditions. Additionally, flexibility must be retained through the joint force developing environmentally-biased capabilities that provide a range of options which deny single-point vulnerability.

General Considerations and Deductions

332. As part of the joint force, we will need to nurture our enduring strategic partnerships with the US and France, reinforce and rebuild old ties, specifically within the Commonwealth, and continue to develop and deepen our relationship with key emerging powers such as India and China. The priority for international strategic partnering will be set by the Foreign and Commonwealth Office.

333. NATO provides the framework and structure for our collective security and is best placed to provide the skeleton command structure for joint and combined operations.

334. The nation's ability to influence events and overseas actors will be greatly enhanced by the maintenance of credible land forces within a balanced joint force.

335. The integrated approach must be preserved and embedded across government as current operations recede; the National Security Council will be instrumental to achieving this.

336. Military capacity building with partner forces should reflect the increasing importance of improving host-nations' military capabilities so that they can provide effective security on their own terms, either domestically or as part of an international intervention elsewhere. *Defence engagement* will need to become a capability and force structure driver for the future land force.

337. In extraordinary circumstances, where the UK's national interests are at stake (and where there may also be moral reasons for this form of intervention) it may be necessary to work with non-national groups in order to promote stability. We will have to accept the likelihood of operating alongside new and unfamiliar partners, and train accordingly. To counter our technological advantage, adversaries will choose to fight where our technology is degraded and our legal obligations are most constrained.

338. The development of persuasive strategic communication³¹ and the speed of delivery will be vital. Effective communication of the goals, conduct and legitimacy of UK land forces' actions to the public and the international community will be essential elements of any operation.

339. There is a need to develop a better understanding of the human 'architecture', infrastructure, and terrain of cities, as well as how these elements interact to underpin their activities.

Capability Considerations and Deductions

340. Land forces will need to understand how to gain the greatest advantage from new technologies, yet understand how to train and operate in reversionary modes when our technology is degraded.

341. Resilience must be built into our force structures and form part of our human capability.

342. Adversaries will actively engage in techniques designed to bewilder and confuse our sensors. Therefore, access to, and freedom of action across, the electromagnetic spectrum and cyber environment is vital for UK national interests and operational land success.

343. Cyber defence is a security concern that increasingly demands fusion of government, industry, commerce and banking resources to produce a shared understanding; we must understand our role and responsibilities within this challenging arena.

344. The depth of understanding required to assist in the prevention of crises, will be primarily achieved by long-term engagement and personal immersion in the affected societies.

³¹ Strategic Communication is defined as: *advancing national interests by using all defence means of communication to influence the attitudes and behaviours of people.* Joint Doctrine Publication (JDP) 0-01.1, *UK Supplement to the NATO Terminology Database*, Edition 8, 2011.

345. Understanding requires the rapid, and appropriate, investment in processing capabilities and improved information exploitation skills and competencies in order to complement defence's array of collection platforms.

346. As we develop better ISTAR capabilities, so will our adversaries. They will actively seek ways to defeat our ISTAR system of systems, denying commanders the information and intelligence they need. We must safeguard our own ISTAR capabilities through resilience and redundancy. Equally, we must develop our own counter-unmanned aerial system capabilities.

347. Avoiding collateral damage will continue to be a constraint and the need for a balance between precision and suppression (including non-precision fires) will be required as an essential firepower ingredient of manoeuvre. Our requirements for suppressive fires (non-precision) will reduce, though not wholly disappear. The development of further precision weaponry, including from unmanned aerial systems, will be another important force design principle, augmenting the precision of our traditional direct fire weapons and our currently limited indirect fire precision weapons.

348. Force protection of deployed forces will be an enduring high priority. It will continue to be achieved by: a combination of a commonly understood and shared approach to land force operations (doctrine); physical protection and equipment (including armoured vehicles and body armour for personnel); manoeuvre (including vehicles capable of moving successfully across terrain and the provision of sensors to warn of threats); the development of specific tactics, techniques and procedures in the execution of operations; and with realistic training in all these factors beforehand.

349. The integrated exploitation of deception methods (and defensive measures against deception), particularly through the use of emerging technologies and cyberspace, need to be resourced and exercised.

350. As methods of deception become more diffuse, arrangements to coordinate deception through the integration of military and civilian intelligence agencies will be required.

351. Experimentation should include consideration of where best to engage threats to our national interests. This may demand a re-balancing of capability and posture while remaining configured to react, and respond to, unforeseen threats *in extremis*.

352. There is an operational requirement to design and test the optimal integrated headquarters in preparation for future deployments. We must design multinationality into our established formation headquarters from the start, particularly those at high readiness.

353. Experimentation should identify what level of combat and enabling capability (including the critical mass of force) represents the credibility threshold that has to be maintained, or surpassed, to provide the moral authority and ability to lead multinational forces in combat.

354. Fighting in urban areas puts a great deal of stress on the concepts of 'just in time' or 'lean' logistics. Dedicated resupply, forward-loading and organic support pushed as far forward as possible will offer the most reliable sustainment in the tactical environment.³²

355. Operations in built-up areas confront omni-directional threats, so harnessing the benefits of local infrastructure to forward-load supplies, and forward-position repair and medical specialists, can reduce movement and waiting times.³³

356. A greater premium must be attached to the importance of conceptual interoperability (how we fight), particularly with those countries with whom we have historically operated or are most likely to operate in the future.

357. Emphasis should be placed on improving precision, integration and interoperability. Our focus should be on: secure communications; sense, warn and engage systems; detection, location, identification and tracking systems; countering indirect fires; countering aerial threats; and the rapid clearance of joint, land and multinational fires.

³² Exercise URBAN WARRIOR 3, Executive Report, 2011, page 21.

³³ *Ibid.*, page 19.

Training Considerations and Deductions

358. A strong moral component of fighting power and military discipline will remain a mandatory requirement for future land forces.

359. Investment in education will help to ensure that the conceptual component of fighting power delivers genuine capability.

360. Decentralisation of forces will place significantly greater demands on commanders and soldiers to understand the character of the conflict they confront.

361. There will be an increasing necessity to prosecute operational activities with precision, placing a greater imperative on mindset and cognitive manoeuvre. Adversaries will focus on influencing and altering emotions, perceptions, behaviours and decisions, and our response demands constant learning, experimentation and adaptation.

362. The reduced density of forces and increased lethality of weapon systems will place a greater responsibility and capability in the hands of smaller combat teams and more junior commanders.

363. Increasingly complex mandatory training in relation to the legal and moral bases underpinning war fighting will be required at all levels.

364. In decentralised operations, a detailed understanding of the legal frameworks and applicable conventions is now required at a much lower tactical level.

365. Greater emphasis on nuanced information is required. An improved understanding of different perspectives, and of other actors' perceptions and intentions, is needed.

366. As a force preparing for contingency operations, it is not possible to train the whole force to be ready to fight anywhere. Force elements will need to specialise in regional and terrain specific environments where activities will enable enduring relationships and provide a much deeper level of understanding of culture, language, relationships, potential rifts between populations, and the nuances of terrain and climate. Regional specialisation will require a new emphasis on language skills. The future force will need interpreters, cultural experts, intelligence officers, civil military co-operation personnel and others to understand the subtleties and nuances of the modern battlefield. Soldier-diplomats who have a progressive understanding of the ideas and technology will allow us to take the fight to the enemy, both among the people, but also in cyberspace.³⁴

367. The future environment requires commanders and operators who are capable of calculating, exploiting and mitigating risk, making decisions and communicating them clearly. Through investing in and developing our profession of arms³⁵ we will create the freedom to take calculated risk.

³⁴ Richards D, General Sir, Speech to International Institute of Strategic Studies, *Future Conflict and its Prevention: People and the Information Age*, 18 January 2010.

³⁵ *Professionals produce uniquely expert work, not routine or repetitive work. Effectiveness, rather than pure efficiency is key to the work of professional. Professionals require years of study and practice before they are capable of expert work-* The Profession of Arms, US Army White Paper, 8 December 2010.

CHAPTER 4 – THE FUTURE ROLES OF LAND FORCES

No matter how altruistic our desire to avoid conflict, the best means to do so is to have the credibility – and therefore capability – to do whatever might ultimately be required to secure our interests.

DCDC Paper ¹

401. This Chapter initially explains the purpose of land forces and their context within defence before articulating the future roles of land forces; the main focus of Chapter 4. These are covered in three broad areas: contingent capability for defence and deterrence; overseas engagement and capacity building; and UK engagement and homeland resilience.

Purpose of Land Forces

Agility in warfare, as in politics and as in gymnastics, requires balance and must begin from a solid and stable position. It is essential for the protagonist to know who and where they are, and of what they are capable of.

Cornish²

402. Prior to any discussion on the future roles of land forces, it is important to understand their purpose. As the quotation above suggests, we need to know who we are and what we must be capable of. Although trends indicate that the prevalence and intensity of conflict is reducing, there is no reason to assume that the future will be more secure. There will continue to be a complex of rivalries between well-established states who may have outgrown the bellicosity of earlier generations, but will still feel the need to protect their interests in a world of growing populations and shrinking resources, and those who cannot trust the capacity of international institutions to do it for them will continue.³ Therefore, the first responsibility of government will remain the security of the state⁴ and defence's primary purpose remains the delivery of

¹ DCDC, *Using Conventional Capabilities to Prevent, Deter, Contain and If Necessary Defeat Threats to UK National Security*. DCDC Paper, 2010, page 7.

² Cornish P, *Land Forces Fit for the 21st Century – Edging Towards Agility: Strategic Planning for the 21st Century*, www.chathamhouse.org.uk, page 6.

³ Howard M, *The Transformation of Strategy*, RUSI Journal, Volume 156 Number 4, page 15.

⁴ *A Strong Britain in the Age of Uncertainty*, The National Security Strategy (NSS), October 2010, page 9.

security for the people of the UK and overseas territories, and support to civil authorities in times of crisis, or when the nation is challenged.

403. The character of conflict will continue to evolve: technology provides new ways and means; an increasingly globalised world presents new threats and challenges; and international and societal norms reshape the conduct of conflict. However, the nature of conflict will remain unchanging, a clash of wills that is inherently dangerous, uncertain and escalatory. Therefore, despite an increasingly changing world and an evolving character, conflict's true nature will tend to assert itself - chaotic violence between humans. Conflict can be limited by politics, resolved in smart ways and conducted 'stand-off', but when national interests are in jeopardy, the UK must be able to fight and win on land, where the final resolution of conflict is almost always reached. To be able to determine the outcomes of conflict in our favour, whether defending the nation at home or protecting our interests overseas, the UK requires land forces that have the ability to go onto the ground of the resilient and clever adversary's choosing, and dominate it.

404. It is far more cost-effective to invest in conflict prevention and de-escalation than to pay the costs of responding to violent conflict.⁵ As such, the military instrument should prevent, deter⁶ and contain threats first, only defeating them if necessary.⁷ Because the committal of land power is such a serious signal of political will, the capability and readiness of the land force, as a warfighting force, is a vital source of UK power and influence. There can be no soft power in defence without an underlying and inherently credible hard power. Therefore, the land force, more than most, underwrites the hard power that is the foundation of not only a nation's freedom; but also its diplomatic power and international influence.

405. Credibility provides the land force with its strategic utility. Backed by firm political will and respected national values, capable land forces are feared by adversaries and respected by allies. The land force, in concert with the other services, must be ready to intervene and apply decisive lethal force to set the conditions for political progress.

⁵ *Building Stability Overseas Strategy*, DFID/FCO/MOD, 2011, page 4.

⁶ See Lexicon for definition of deterrence.

⁷ DCDC, *Using Conventional Capabilities to Prevent, Deter, Contain, and if Necessary, Defeat Threats to UK National Interests*, SDSR Study 5.5, 2010, page 3.

406. A credible land force provides reassurance to allies and prevents conflict upstream through training and assistance missions overseas and strong bilateral army relationships with allies. It also allows for building partners' military capacity to enable them to resolve their own security problems and contribute more to international peacekeeping operations. They also support comprehensive political / military solutions to threats by contributing to textual understanding, as well as dealing with threats at distance (before they become unmanageable) through a range of scalable responses, including military advice, planning assistance, enabling proxies and partnering indigenous forces. Land forces engaged in UK society will increasingly be part of the UK's effort to influence events overseas.

407. The evolution of the character of conflict as well as the ebb and flow of political will cannot prevent unexpected shocks, or change the fact that conflict is a human phenomenon. Conflict may exploit new technology, but will always be resolved by people fighting to decide the ultimate outcome or implementing a political settlement on the ground and among the people. Therefore, the UK will have a continuing need to maintain a credible warfighting land force, to not only defeat adversaries where national interests are in peril, but also deter and prevent conflict through its credibility and the respect with which it is held at home and overseas.

Future Roles

408. In order to meet the demands and challenges examined in this Joint Concept Note, and to address the deductions drawn thus far, future land forces will need to develop forces capable of delivering three overlapping purposes. The first requirement is to construct a professional and highly capable land force which is able to conduct complex combined arms operations and the full range of standing and contingency tasks set by defence policy. This will set the capability level and, therefore, the use of future UK land forces. It will also underpin its credibility which will be important in its broader employment.

409. Second, and capitalising on the first requirement, the land force needs a flexible force structure to provide *defence engagement* abroad. The provision of support and influence through engagement and capacity-building activities abroad, and in the UK through inbound visits, will foster relationships

and develop our understanding of other nations' security situations. This engagement will also contribute to security, stability and prosperity abroad. Our force elements, however, must be capable of rapid regeneration in support of the contingency force when required.

410. Finally, land forces must be capable of contributing to, and engaging with, civil society, including being able to meet the requirements and expectations of supporting the civil powers, local authorities and communities. This will support recruiting efforts and the generation of Reserves. Therefore, well trained, equipped and led land forces will form the central capability across the six military activities⁸ in the land environment. These activities fall within the three core roles as shown in Figure 4.1.

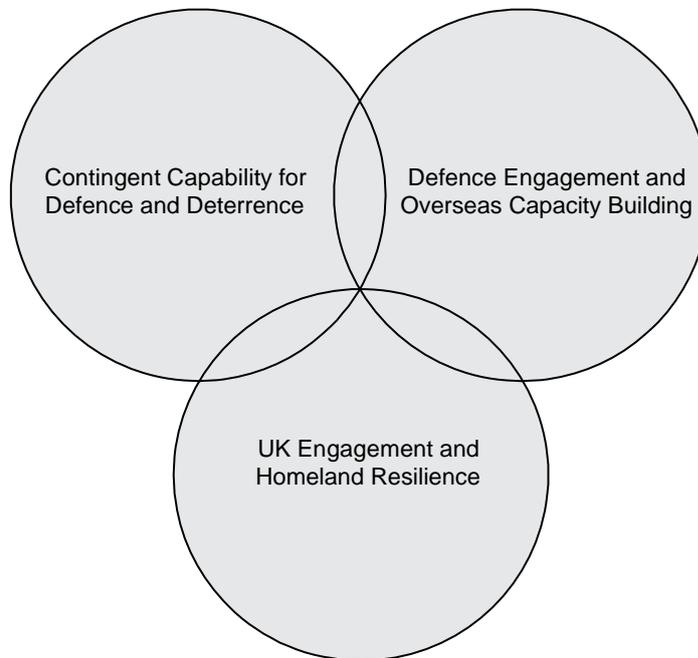


Figure 4.1 – The Future Roles of Land Forces

An Adaptable Force

411. In order to achieve the three overlapping roles shown in Figure 4.1, a contingent-capable force, that is adaptable by design, will be required. An adaptable force, principally organised into brigade structures, should conduct national and international engagement, contribute to UK resilience and

⁸ Six military activities include: Complex and simple intervention (SDSR 10); security for stabilisation (SDSR 10); counter-insurgency; peace support; peacetime military engagement and conflict prevention; and home defence and military aid to the civil authorities. DCDC, Army Doctrine Publication (ADP) *Operations*, 2010, page 8-2.

maintain a baseline of institutional competence in combined-arms skills. This structure is critical in allowing the force either to reorganise over time to take part in enduring operations, or to provide a base upon which to expand if threats or strategic circumstances change. The adaptable force will contribute to UK resilience by engaging and operating alongside other government departments, local authorities and other agencies, as well as providing specialist capabilities, mass and military command and control in the execution of homeland defence and resilience operations.

412. Manoeuvre resilience, vested in combat arms (but supplemented by other capabilities such as fires, Intelligence, Surveillance, Reconnaissance (ISR) and command and control), is a priority and must be preserved. Both war and stabilisation (without clear boundaries between the two) will be expeditionary and require reach, mass and persistence. The requirement to regenerate and reconstitute combat power for future operations, particularly when engaged in populated areas, will be centred on the infantry. Training for the adaptable force, while it is at extended readiness, must be optimised to maintain skills in combined-arms manoeuvre, principally at sub-unit and unit levels. Preserving institutional resilience, and being able to adapt the force to participate in enduring stabilisation and security operations, requires a framework for expansion. Lastly, the adaptable force must be able to provide a credible baseline of skills and capacity to conduct upstream capacity building overseas.

413. Revitalised and reorientated Reserve forces will be harnessed to create a capability margin for domestic resilience, homeland defence and military regeneration which is more integrated within the overall force structure. As a component part of the whole force, a more coherent approach to the Reserves will deliver better operational capability and reduce the risk of attributed dependence.⁹ In future operations, there will be an operational imperative to be able to deploy Reserves as individuals, sub-units and formed units. Sub-units will continue to be the building block of the reserves. Availability and quality of the Reserves have to be guaranteed if they are to be an essential and integrated element of the whole force structure. Reserves will remain a vital link between civil society and the UK Armed Forces; in other words, they are key to national engagement and this use must be maximised.

⁹ Reserve forces must be understood as a *whole force* element comprising five independent sub-elements: the volunteer reserve, the regular reserve, sponsored reserves, reservist employers and reservist families.

414. The complexity of the future operating environment will require civilian skills to be exploited; this can be achieved by selective recruitment into appropriate units or by voluntary employment of reservists in response to the need. These include cyber, stabilisation and medical roles in humanitarian crises. Specialist skills will also have use in a number of roles in conflict prevention, defence diplomacy, security and justice, and stabilisation roles.

Contingent Capability for Defence and Deterrence

415. As discussed in Chapters 2 and 3, there are numerous imperatives to project focussed power, and an army without an expeditionary mindset and capability will reduce its relevance as an instrument of power. History points to an enduring requirement for the UK to project power abroad.¹⁰ This, however, recognises that future operations will be conducted in a changed world, and further analysis is required to determine the optimal response to threats and risks.

416. At the heart of the use of land fighting power is the ability to operate in close concert with the other services, especially, and almost always, with air forces. This will not change. The UK's island status confers two main means of theatre entry; both require the exploitation of the global commons of either the sea or air space. Significant strategic mobility rests on the freedom to use the oceans, and major military operations, especially in the littoral, demand sea power on a significant scale. Control of the air remains an essential prerequisite of the manoeuvrist approach; it enables land and maritime surface manoeuvre, combined with the ability to deliver precision effects to the deep battlespace. This is the joint context in which a potent land contingency force must be generated. An expeditionary capability must, by its very nature, include strategic maritime assets and airlift to take a land force to the crisis and more broadly, requires the integrated employment of the full panoply of joint capabilities.

417. Land forces must be capable of rapid expansion and have the ability to deploy high quality forces irrelevant of whether it is for humanitarian operations or a scalable intervention to promote international peace and stability. Threats to human security will contrive to demand humanitarian

¹⁰ Excluding Operation BANNER in Northern Ireland, there have only been 13 years since 1945 in which the British Army was not deployed on expeditionary operations.

intervention, involving the threat or use of force, as well as the wider requirement for humanitarian action and aid.

Agile, Combined-Arms Manoeuvre

418. Future land operations are likely to use highly mobile air and ground forces to exploit information gained from a wide array of manned and unmanned ground and air sensors, as well as network analysis, communications interception and cyberspace monitoring. As described in Chapter 3, *manoeuvre* will be multi-dimensional with influence being the principal outcome. Adversaries will seek to deny our freedom of manoeuvre ranging from the physical to cyberspace, and will seek to attack our command and control, as well as logistic networks. It is likely that military forces, including land forces, will require troops trained, and equipped, to undertake defensive and offensive cyber operations. Coherent intelligence, surveillance and reconnaissance will be a key capability; however, rapidly evolving capabilities will need to be harnessed to ensure the continued relevance of combined-arms manoeuvre, and fire and movement. Adversaries are likely to contest comparative advantages and leverage technology using novel or asymmetric methods. This will require the adoption of new approaches, *inter alia*, to air defence against unmanned air systems, a reinvigorated effort towards chemical, biological, radiological and nuclear defence and capabilities to deny the enemy access to, and exploitation of, the electro-magnetic spectrum.

419. The term *Intelligence, Surveillance, Target Acquisition, Reconnaissance* (ISTAR) needs to be re-examined and re-evaluated to reflect exactly what we require and what we mean. There is a need to return to more precise language of reconnaissance as the primary means of observing to locate and ascertain. However, reconnaissance is more than just 'scouting', it will be about engagement, comprehension (situational awareness and analysis) and understanding (comprehension and judgement).¹¹ Reconnaissance assets must develop and exploit the tactical situation, not just find the exploitable gaps by traditional means.

¹¹ Joint Doctrine Publication (JDP) 04, *Understanding*, 2010, page 2-2.

420. Armoured infantry will be a core capability around which manoeuvre will be built. The complexity of the environment will require small and robust combined-arms teams able to fight dispersed. Mobility support will be critical in the complex battlespace; assault engineers will be required in greater numbers than at present to fight within complex environments, such as urban terrain. Armour, drawing on its protection and ability to provide precision fire, will be required primarily to provide intimate support to dismounted infantry, although armour should continue to be capable of defeating an adversary by shock action and ground manoeuvre. Control and integration of joint and organic precision fires, both physical and virtual,¹² will have to be co-ordinated and synchronised as far down as sub-unit level.

Air Power

421. The four fundamental air and space roles: control of the air and space; mobility and lift; intelligence and situational awareness; and attack, will retain their relevance as the best framework for understanding air power throughout the Future Land Operating Concept (FLOC) timeframe, although there will be a blurring of roles driven by developing technology and the emerging character of the future operational environment.¹³ The ability to operate under a favourable air situation will remain a key enabler for land forces. Control of the air will be critical to the success of a joint campaign, allowing land forces freedom of air and surface manoeuvre; it will also determine the ability of commanders to gain and retain the initiative. Land forces will need the ability to communicate effectively with all air command and control assets to deliver land-air effects. Importantly, we must also understand how to integrate and layer the variety of air platforms needed to deliver effect in the land battlespace. This will invariably require early engagement and planning.

422. Air mobility and lift (including precision air delivery) will support the deployment, sustainment and manoeuvre of future forces, and includes precision air delivery, air-to-air refuelling, air assault and airborne missions, air logistics missions, personnel recovery and aero-medical evacuation. Air mobility acts as a fundamental enabler for surface manoeuvre; it is particularly useful for moving light and Special Forces where the threat to surface

¹² Computer network operations or cyber.

¹³ DCDC, *Future Air and Space Operational Concept 2012 (Draft)*, 2012, page 15.

manoeuvre is high.¹⁴ Air mobility and lift will be performed in much the same way but emerging technologies, such as hybrid air vehicles, may offer the potential to combine manned and unmanned operations and provide a viable and affordable alternative to conventional air transport platforms.

423. Surveillance and reconnaissance provide the means by which air and space assets provide intelligence and contribute to shared situational awareness. The proliferation of technology will lead inevitably to an increase in friendly, hostile and non-aligned airspace users, including unmanned aircraft, which will require high levels of air situational awareness. The ability to operate above densely populated areas while conducting ISR, attack and mobility missions will continue to be a key advantage of air power. These air assets can be drawn from any of the three services.¹⁵ The ability of adversaries to blend into the local environment will require ISR-sensor deployment or the collection, analysis and understanding of patterns of life to develop models of behaviour. Unmanned systems are ideally suited to provide this capability.

424. Air power offers a credible, long-range, precision attack capability which has a marked deterrent and coercive effect. In common with land forces, the application of force will be governed with ever greater discretion, precision and proportionality. Emerging technologies such as directed energy weapons, high-speed weapons and more capable unmanned air systems offer the potential to transform attack capabilities.

Air Manoeuvre

Air manoeuvre is conducted...in order, to achieve advantage, through shaping, and sustaining tasks. It can also provide the decisive act. Air Manoeuvre unites attack helicopters, ground, air assault and airborne forces, support helicopters and fires within a combined arms and joint framework. This significantly increases, in the third dimension, the force's capacity for manoeuvre, and tempo.

*ADP Operations*¹⁶

¹⁴ Air Publication (AP) 3000, *British Air and Space Doctrine*, 4th Edition, 2009, page 41.

¹⁵ Joint Doctrine Note (JDN) 2/11, *The UK Approach to Unmanned Aircraft Systems*, March 2011, pages 7-4.

¹⁶ *Op. Cit.*, *ADP Operations*, November 2010, paragraph 0724d(2).

425. Air manoeuvre has the ability to transition between roles and operate across the range of operational environments, most notably from the sea (via the littoral) to the land and back again. Air manoeuvre should be closely integrated with the air and maritime components, and the actions of a ground manoeuvre force if also employed. Air manoeuvre employs the agility, reach and flexibility demanded by the future operating environment and its ability to operate at range, geographically distant from main ground forces or bases, represents a key operational capability to shape, sustain or provide decisive action. The addition of the third dimension in the conduct of combined-arms operations can be enhanced by the teaming of manned and unmanned platforms for reconnaissance, strike and lift sorties.

426. Air manoeuvre provides a capability that can achieve speed of deployment and redeployment, independent of terrain, and deliver personnel and equipment or supplies rapidly, over distance and onto objectives that would normally be considered inaccessible by vehicle. It can also be used to seek advantage over very short distances in complex terrain where movement in vehicles is constrained. Aviation can, therefore, protect and sustain both a deployed air manoeuvre or ground manoeuvre force with intimate support from the air. Control of the air cannot be taken for granted and counter-air missions may be required in the future operating environment. Furthermore, some non-state adversaries are also able to challenge control of the air, particularly at lower altitudes. Rotary and slow fixed-wing aircraft are vulnerable, particularly during take-off and landing, and their use may be constrained by the threat of ground-fire.

427. As part of the air manoeuvre capability, air assault provides a capacity to concentrate, disperse or redeploy rapidly by day or night and attack or approach from any direction across hostile terrain.¹⁷ It has tremendous use in irregular warfare and dispersed operations, acting as a force multiplier by enabling combat power to be massed at high tempo.¹⁸ A tactical battle group air assault mission can provide the massed combat power required on the ground in one wave. Air manoeuvre, air assault and air mobility capabilities will be instrumental in the seizure of the initiative and exploitation of the developing situation on the ground. Air manoeuvre will have important effects

¹⁷ *Air Manoeuvre Capability Concept Note*, Joint Helicopter Command, 2011, page 2.

¹⁸ *Op.Cit.*, AP 3000, page 41.

in the information domain and against many of the opponents that we may face; air manoeuvre is likely to constitute one of our asymmetric edges.

Littoral Manoeuvre

428. Littoral manoeuvre is the exploitation of the sea as an operational manoeuvre space by which a sea-based or amphibious force can influence situations, decisions and events in the littoral regions of the world. This will be achieved through an integrated and scalable joint expeditionary capability optimised to conduct deterrent and coercive activities against hostile shores posing light opposition.¹⁹ There is an increased likelihood that the joint force will be engaged in littoral operations given the predicted future operating environment. The denial or unavailability of ports, land routes, airfields or airspace may necessitate littoral manoeuvre. If so, future littoral operations in the joint operational area are likely to be founded on *joint (or integrated) action*. Amphibious forces will seek to realise simultaneous effects directly against objectives through ship to objective manoeuvre using unexpected penetration points and landing zones to avoid established defences. The seizure or denial of key terrain to the enemy may be required to facilitate the introduction of follow-on forces. If projection of greater combat mass is necessary, a full commando brigade as part of a multinational coalition could be deployed or, heavier land forces can be projected.

429. In any littoral scenario, a necessary pre-condition for successful *joint action* will be an accurate, detailed awareness or, preferably, understanding of the operational area. Defining activities will need to persist throughout all phases of an operation or campaign. Shaping activities will follow this defining activity to set the conditions for successful land manoeuvre, decisive action and exploitation. Sufficient air, surface and sub-surface capability will be required for decisive acts. Decisive activities may be necessary to influence the wider littoral or induce a favourable situation on land. In these cases, it will be necessary to project amphibious forces or land assets, to achieve objectives. Decisive activities may include the simultaneous, or sequential, projection or introduction of land forces, systematic destruction of the enemy

¹⁹ DCDC, *Littoral Manoeuvre (Amphibious Task Group) Joint Capability Concept*, 2009, page 1.

or neutralisation of opposition through a combination of organic and *joint fires*, leading to further manoeuvre and consolidation.²⁰

Command and Control

A standing C2 structure, optimised for joint, multinational and inter-agency connectivity, is the principal framework for organising integrated responses to complex crises.

DCDC Paper²¹

430. The future land force must be capable of, and proficient at, operating and leading integration in a Combined, Joint, Intra-governmental, Inter-agency, Multinational (CJIIM) environment. The complex physical and conceptual nature of the land environment requires a depth of professional expertise to generate, use, co-ordinate and command forces operating in the land domain. This includes the ability to direct the conduct of operations, up to and including, the theatre level.²²

431. The demands of the future operating environment are such that small and mobile formation headquarters are likely to be unable to collate, process and disseminate the level of information and understanding required to generate the mixture of comprehension and agility that is needed to retain the initiative in complex modern conflict. Land forces are likely to be geographically dispersed and decentralisation is likely to be the operating principle through networked command and control. There will be a need for flat information structures and rich information services available at the tactical level. Decentralised operations demand the ability to re-group and concentrate forces when the situation demands. In order to maximise the potential of mission command to create and exploit opportunities, command and control architecture which is able to network top-down and bottom-up is required to exploit advantages in information management and information exploitation. Recognising that command is a capability in its own right, empowerment will be critical to the success in the decentralised future battlespace.

²⁰ *Ibid.*, pages 9-11.

²¹ DCDC, *How We Fight: The Role of Military Power in Achieving National Objectives*, May 2012 (Draft).

²² The corps level is the highest-level deployable headquarters capable of exercising command of divisions, functional brigades and task forces as well as serving as the core of a theatre-level, joint task force or joint force land component commander headquarters.

432. Larger, more static, main headquarters require the structures and resources to deal with the requirements of an integrated and multinational approach. The span of decentralised command, and dealing with the demands from governments and higher headquarters, will need to be supplemented by more mobile, tactical and deployable elements. This suggests a need for a robust deployable headquarters at the divisional level and more mobile brigade headquarters. This allows commanders to remain engaged closely with the conduct of operations, when and where, the situation demands.

Reaction Forces

433. Future land forces should be designed to train, deploy at short notice with minimal mission-specific training, and fight as a division at best effort. This responsive, intervention force should be robust in design and composed of resilient establishments to prevent the need for backfilling. It needs to be capable of combined-arms manoeuvre, land-air in design, and be able to operate in the CJIM environment. The integration of capabilities will be key. The force should be equipped to manoeuvre, and operate in, potentially high threat, complex, or intense environments and to provide endurance to a stabilisation operation. Combat power should be concentrated in the force to match high threats from the outset, as opposed to reliance upon a modular approach that dilutes the combat power across the force. Rapid deployment of a robustly configured force to seize and hold the initiative from an initial position of disadvantage will be critical.

434. In the future operating environment there will be significant compression and blurring between the tactical, operational and strategic levels. Campaign planning tools, designed to manage complexity at the operational level, are now required routinely at the tactical level. Increased weapon ranges and more capable communication systems have expanded the scale of the battlefield exponentially so what was once corps and above battlespace is often now within the capabilities of a division.²³ Brigades²⁴ should be optimised to fight at the tactical level and be fully capable of manoeuvre in all environments including ground, lower air and in some cases,

²³ *Deployable Divisional Headquarters - Concept of Employment* – dated May 2012. This document forms part of the Army 2020 Report, page 1.

²⁴ Brigade is the level where task organisation between combat / combat support units takes place to create all-arms battlegroups.

cyber. The structure required to achieve manoeuvre, and the training it requires, will provide the most appropriate baseline from which to adapt to other tasks.²⁵ There will be a requirement to mass scalable joint precision effect organically at an increasingly lower level than hitherto; concentration of force requires balance with economy of effort.

Overseas Engagement and Capacity Building

As we find it harder to maintain large armies, or politics make it more difficult to employ them in isolation from others, partnering will become more vital. And the British Army's role in building these partnerships in advance of combined operations, or pre-emptively, will be crucial. Yet the credibility of our overseas training teams and UK-based courses is built on the battlefields around the world.

General Sir David Richards²⁶

435. The Building Stability Overseas Strategy marks the first time that the Government has put in place an integrated cross-government strategy to address conflict issues. The paper recognises the need for 'upstream prevention' to anticipate instability and potential triggers for conflict. As part of this Foreign Commonwealth Office, Department for International Development, Ministry of Defence integrated approach, the UK Defence Engagement Strategy provides the necessary coherent strategic direction for our international defence engagement to exploit opportunities to influence. *Defence engagement*²⁷ increases our understanding and communicates our intent to adversaries, strengthens partnerships, influences neutrals and maintains operational access to support our freedom of action. It contributes to the UK's strategic goals of ensuring a secure and resilient UK, and shaping a stable world. The UK retains considerable soft power influence with its allies, the Commonwealth and other regional partners from the reputation, capabilities and effectiveness of its Armed Forces. Defence engagement requires cross-government, industry and multinational cohesion.

²⁵ Exercise AGILE WARRIOR 2011, *ADF Report*, page 3.

²⁶ Richards D, General Sir, Chief of the Defence Staff, *RUSI Annual Lecture*, 14 December 2011.

²⁷ Defence engagement is the means by which we use our defence assets and activities to achieve influence internationally. UK Defence Engagement Paper (Draft), March 2012, page 1.

436. Engagement activity incorporates security co-operation, defence diplomacy, forward presence, reassurance, deterrence, containment and coercion. Uniquely amongst the UK's soft power tools, defence engagement can also deliver 'hard' influence by being able to deter, contain and coerce, and thus provides important political levers. Given the profound strategic changes and a more networked, interconnected world, land forces must continue to invest in defence engagement as a means of preventing, in certain situations, the need to use the more expensive hard power option. This should be complementary to our diplomatic, development, intelligence and trade-promotion tools in order to contribute to our security and prosperity objectives more widely.²⁸ Specifically for the land environment, engagement assists understanding to shape strategy and builds trust and co-operation amongst partners.

437. Defence engagement, specific to the land environment, falls into four broad categories:²⁹

a. **Non-combatant Operations.** Non-combatant operations and security operations will continue to be an integral part of defence engagement. This includes activities such as conventional deterrence, coercion, containment and reassurance. Special Forces will continue to be used overseas, in conjunction with partners, to counter terrorist threats. Information and cyber operations will be conducted alongside our allies to protect our national interests, and contingency operations will take place to provide reassurance and security in volatile regions.

b. **Defence Diplomacy.** Defence diplomacy covers activities ranging from basing and access issues, to support to current and contingent operations. The Defence Attaché network provides a frontline defence presence and face-to-face interaction with host nations. This 'soft power' will continue to be instrumental in building alliances, coalitions, and partnerships to ensure co-operation, burden-sharing, interoperability and capacity building. The network of loan service, exchange and liaison officers provides critical situational awareness, information and influence within multinational and multilateral

²⁸ *Ibid.*, page 6.

²⁹ *Ibid.*, pages 8 – 10.

organisations (such as the UN and NATO), and foreign governments on a national or regional basis.

Training is an essential ingredient of Defence Diplomacy and a tool that delivers disproportionate effect. Training enables us to expose international partners to UK policy and doctrine, and to promote ideas of accountability and transparency. It is also crucial in building skills, capability and capacity which enables those countries to better deal with their own internal problems, increasing regional security.

UK Defence Engagement Paper³⁰

c. **Defence and Security Exports and Sales.** Specialist personnel, working in concert with the Foreign and Commonwealth Office, will continue to support UK Trade and Industry for the sale and export of defence and security training, advice and materiel manufactured in the UK or by UK companies.

d. **Conflict Prevention, Post-conflict Reconstruction and Stabilisation.** Conflict prevention, post-conflict reconstruction and stabilisation are all activities in support of the Building Stability Overseas Strategy which places an emphasis on upstream conflict prevention. Security sector reform is likely to remain a key policy instrument based on the recognition that security is essential to conflict prevention, stabilising fragile and conflict-affected environments and aiding development efforts. Capacity building will be central to conflict prevention and stabilisation tasks.

438. The UK has a long history of training foreign forces, enabling a small professional land force to spread its influence around the world. More recently, training teams have provided professional military support to armies in important regions of Africa and the Middle East. This often low-key and understated military task of training indigenous forces, co-ordinated centrally from the MOD, has played a discrete, but important, part in supporting UK's overseas security interests.³¹ Given public and political concerns (following the Iraq and Afghanistan experiences) about the use of armed forces in further

³⁰ *Ibid.*, page 9.

³¹ Carter N and Alderson A, *Partnering with Local Forces*, RUSI Journal, Volume 156 Number 3, June/July 2011, page 34.

interventions, particularly when the national interest is not very clear, a strong case can be made for 'upstream engagement'. This approach is based on long-term investment, built on capacity and confidence-building, to provide some measure of predictability and planning. Our defence engagement efforts will be contingent on the UK being seen as a reliable and credible security partner.

439. Indigenous capacity building and upstream security assistance is likely to play a key role in generating the necessary indigenous capability, mass, insight and understanding that we will need in these environments in the future. This 'strategic sensitivity' will require complex relationships to be fostered and developed. This will require a new attitude and approach that will entail continuous service and engagement abroad. Local security forces, correctly trained and equipped, serve as a powerful force-multiplier in preserving regional stability. They can also change the geometry of a campaign and ultimately, provide the means to return power to the local people.

440. There will be an increasing range of political, legal, ethical and financial imperatives to build relationships. New alliances and partnerships will form, and established ones will be adapted to meet the breadth and depth of the challenges. The apparatus of military education and training enables the transmission of values. The more defence can play an active role in the enabling functions of multilateral organisations (for example, providing staff officers and planners, or providing doctrinal training and exercise facilities) the greater the influence it will have in fostering the norms that the UK wishes to promote in the international system.³²

UK Engagement and Homeland Resilience

441. Defence has a share in the wider government responsibility for the safety and security of the citizens of the UK. However, defence's contribution rests primarily on our ability to undertake military operations overseas. The Government has prioritised terrorism within UK borders and severe civil contingencies affecting UK territory, as two of the four 'Tier 1' risks on the Strategic Risk Assessment.³³ Given the uncertainty of future conflict and the

³² Rathmell A, *A Question of Security*, RUSI, 2011, page 26.

³³ *Op.Cit.*, National Security Strategy, Part 3, 2010, page 27.

reach of potential adversaries who will seek to disrupt us concurrently at home and abroad, Army Command must have both the capabilities and competencies to provide the lead military contribution to homeland defence and wider military tasks, particularly the capacity to support the civil authorities in times of crisis. Homeland defence will remain a pressing concern.

442. The proliferation and threat of weapons of mass destruction and computer-network operations means that the UK must have the capability, with its allies, to deter, and if necessary, defend against such threats. Indeed, there is currently little or no knowledge of the vulnerabilities and risks arising from interdependencies across the UK's national infrastructure resulting from an underinvestment of resilience.³⁴ As with operations abroad, the impact of adversarial action in the UK is likely to be set within populated areas. Our adversaries will attack at seams between the environments or at perceived vulnerabilities, and will focus on areas that fall outside of the traditional battlespace, such as in cyberspace.

443. The Army will continue to contribute to UK resilience through the provision of a number of guaranteed niche capabilities and a process of augmenting civil authorities and structures when civil capability, or capacity, is exceeded. Augmentation is currently not a force driver and no capabilities are earmarked for the task; indeed the provision of support is likely to be at the expense of core business. With the home-basing of the vast majority of the Army in 2020, a return to contingency and a re-focused defence emphasis on prevention, greater clarity and coherence needs to be brought to the military contribution to national resilience.

444. There will always be considerable political tension surrounding the execution of homeland defence and resilience operations. The proximity and impact on the UK's population is immediate, and this places the Government in a politically sensitive situation. Tensions are high and the need to respond is immediate. Notwithstanding this political sensitivity, there is an argument that the military should balance out its traditional expeditionary capability, with its capability to respond to homeland security and resilience incidents. Capabilities such as ISR, chemical and biological detection and decontamination, and specialist engineering assets could make a useful contribution to homeland security and resilience. There is also scope to

³⁴ *A National Infrastructure for the 21st Century*, Council for Science and Technology, 2010, page 32.

integrate the military into the National Risk Assessment process, with the Army earmarking or developing capabilities and skills for those risks which are identified as high impact and high probability. These risks are likely to include bio-terrorism, major disruption to energy infrastructure and large-scale flooding.³⁵ The military contribution will continue to recognise its place in the hierarchy of response to crises affecting the UK.

445. One of the characteristics of the future Army is that it will be predominantly UK-based; it must be understood, valued and respected by the nation it serves. To achieve this, it must be better connected regionally. There is increasing recognition that individuals, community and voluntary sector groups and local businesses are better placed than government to understand and respond to the needs of the local community before, during and after an emergency. The Army needs to be integrated with civil society and be positioned to assist civil efforts, especially as the likelihood and impact of some natural hazards will increase over time with changes in the climate.³⁶ The management of expectations and effective communication will be critical.

446. In an increasingly interconnected world, diasporas have blurred the distinction between home and abroad. While this presents some risks and threats at home, it also presents an opportunity to shape populations abroad. The Army's diverse recruiting footprint and representation across UK society presents engagement opportunities that are not available to other elements of the establishment. Land forces engaged in UK society will increasingly be part of the UK's effort to influence events overseas. Engagement with the UK's diverse ethnic minorities and diasporas support defence engagement efforts, contribute to a better contextual understanding of future contingency operations and assist with resilience efforts. National engagement, like defence engagement overseas, requires an integrated, inter-departmental approach.

³⁵ Phillips M, *Redefining the Military's Role in Domestic Security*, I. B. Taurus, 2011, page 202.

³⁶ The Strategic Defence and Security Review, *Securing Britain in an Age of Uncertainty*, Chapter 4, 2010, page 49.

General Considerations and Deductions

447. The early integration of all environments in headquarters planning structures and process must take place at the outset of an operation.

448. Combined-arms manoeuvre remains at the heart of the use of land fighting power, but the future force must structure, equip, train and operate not just with all of the traditional tools, but also with an ever-increasing range of capabilities (like cyber), and in closer concert with the other services.

449. The delivery of training (as part of defence diplomacy efforts) in developing fragile states invariably centres upon land-based armed groups. Building skills, capacity or capability enables those countries to better deal with their own security and stability problems.

450. Our global footprint should be reviewed from first principles to ensure a more focussed, resource-informed and integration-focussed construct. This will include a network of exchange and liaison officers with CJIIM partners, carefully targeted secondments, investing in integrated embassies, military training teams, military support to stabilisation and foreign area officers.

451. We need to better exploit the knowledge of relevant diasporas and networks of experts beyond the MOD to develop an understanding of prioritised countries, cultures and concepts.

452. A high readiness contingency force will be required for non-permissive non-combatant evacuation operations, global reach counter-terrorism and intervention through interposition to restore order and stability.

453. UK land forces are likely to increase their contribution to UN humanitarian operations.

454. The Army must be capable of enabling force generation during mission-specific training and operating in a multinational setting, where task organisation will routinely include partner nations from *ad hoc* alliances.

455. A responsive, reaction force will achieve robustness primarily through the regular component, although individual augmentation by the Reserve can be delivered when readiness levels and the complexity of tasks allow. Combat support ‘integrators’³⁷ will need to be delivered by the regular component owing to the training demand, complexity of task and need for guaranteed availability in collective training and force generation.

456. The Army must revisit the way in which it both generates mass through new and innovative means, and its ability to regenerate its own mass when called on to do so as rapidly as possible. This will include structuring and operating in a way that enables the generation of mass through capacity building with allies and partners.

457. As well as training junior ranks, defence engagement efforts should be increasingly focussed on framework and enabling capabilities that bolster multinational institutions. Assistance to defence reform, and overseas postings to headquarters and educational establishments, are likely to provide disproportionate leverage and influence.

458. An expeditionary military advisory capability should be created with specific units earmarked to provide specialist training teams. This will empower partners to operate by themselves, or alongside the UK and her allies. Foreign area officers must become ‘diagnosticians’ in designing and managing indirect and direct security assistance programmes.

459. Military capacity-building must be designed into operations from the outset. An early handover of responsibility to allies and / or other agencies cannot be assumed.

460. The land force is likely to contribute as a junior partner to emerging powers in stability-focussed operations.

461. The land force must be prepared to provide the lead in a land-centric coalition headquarters or, if the coalition is led by another nation, provide the lead within an area of that coalition headquarters. In that context, we will need to develop our thinking and practice in ‘followership’.

³⁷ For example, Artillery Fire Support Teams and tactical groups or engineer parties at battlegroup and sub-unit level.

462. The scale, multi-dimensional nature of manoeuvre, and the complexity of the environment, require an essential level of command above brigade, or task force, where the political dialogue takes place, and judgements are made about where to concentrate force and apply economy of effort. This enables the tactical actions of the brigades, or task forces, to be sequenced in time and space. Conversely, joint and inter-agency capabilities need to be integrated at lower levels of command.

463. Land forces need to re-grow the relevant core competencies, as well as develop and institutionalise new ones for 21st Century warfare.

464. The explicit dependency on Reserve force capabilities will require a more holistic view on how capability is equipped and trained, and the time required to react to strategic shifts in a coherent and balanced way (across the panoply of national interests).

465. The land force must be able to provide security for stabilisation tasks as well as being configured for counter-insurgency and counter-terrorist tasks.

466. Following the return to contingency, the Army will be better positioned to extend the use of existing, or planned, military capabilities and expertise to support other government departments in times of crisis. Public expectations of military support, which are often high and unrealistic, will have to be managed through effective communication.

467. A more concerted effort is needed, especially given home-basing, to integrate with local communities. Our values and standards, leadership and teamwork offer mechanisms to achieve this with local communities and businesses.

Capability Considerations and Deductions

468. The capabilities and structure of land forces must include: intelligence and understanding; tactical and operational manoeuvre and mobility; robust command and control; versatile and responsive logistics; and precision attack.

469. The land force must improve its mechanism for understanding our potential future adversaries. Both force generating and deployable command headquarters need a better understanding of their potential adversaries before the conflict occurs.

470. Where enduring relevance can be proven, urgent operational requirement capabilities should be brought into core, maintained, and developed for the Future Force Beyond 2020.

471. Land forces must prepare in capability terms for future operations in the urban environment. Experimentation has illustrated the use of armour in support of infantry in high density operations as well as the need to develop air manoeuvre doctrine in this environment. Greater investment in urban capability will be required, but this will have to be balanced against other capabilities. This has pan-defence lines of development implications, particularly changes to the training estate and, given resource constraints, investment in partnership training opportunities and simulation.

472. The ability of the joint force to manoeuvre and gain access in the littoral is likely to become more demanding. Access may be denied to amphibious forces by contesting the control of the air, surface, subsurface or cyberspace through the use of sophisticated anti-access and area denial weapons in the littoral regions.

473. Manoeuvre in the lower airspace will have implications for the assets allocated at brigade level. Air defence (particularly anti-unmanned aerial systems), as well as battlespace and air space management capabilities, are likely to be required. An enhanced *find* capability is also likely to be needed in this dimension.

474. The lower airspace will become increasingly complex and congested. Controlling the air in high density urban complexes will rely on co-ordination between nations and across the services.

475. In capability terms, dispersed sub-units may need to become more robust and resilient. Mobility support will be an essential capability and, in particular, they are likely to need organic, or attached, assault engineers able to operate in the urban terrain.

476. There will be a greater imperative for sub-units to have access to human intelligence assets and products in order to develop the situation in contact as a core competency.

477. The ability to operate and analyse organic surveillance and precision fires using small tactical armed unmanned air systems is likely to become a mainstream task for sub-units.

478. The land force must re-discover and re-invest in the art of manned reconnaissance, closely linking it to the confidence to exploit the situation, both in and out of contact. These forces need to be capable of operating against an enemy expert at reconnoitring.

479. We must seek structural and technological solutions which do not remove the strategic mobility and agility of light forces, nor detract from the tactical protected mobility of heavy forces.

480. There is an enduring requirement for logistic support regiments to plan and conduct deliberate logistic movement through contested battlespace. These regiments must be resourced with an organic self-protection capability that includes suitable platforms, weapons and training.

481. In complex environments, freedom of movement for our own force, indigenous communities, and support to enable economic and governance development, is likely to be decisive.

482. Future cyber threats will demand resilient information and communication systems capable of rapid configuration and regeneration to maintain operational capability. Land forces will require troops and capability to conduct offensive and defensive cyber operations enabling secure command and control.

483. A shift of emphasis from platforms and command and control nodes towards better human understanding is required, especially when signatures are weak and cluttered.

484. Given that understanding is the principal input, and influence our principal output, 'the influence-effects cycle' must be further established in doctrine and sufficient resourcing given to this function in battlegroup and formation headquarters.

485. The establishment of an information exchange group should be resourced as a priority, along with greater investment to develop scalable, flexible and mobile communication information systems architectures.

486. Lethal effects will increasingly have to be built around strategic communications and, in some cases, cyber.

487. The exploitation of the third dimension will be critical to deliver rapid deployment, reach and flexibility in the future operating environment and will form a critical element of our high readiness contingency capability.

Training Considerations and Deductions

488. Although elements of the force can be held at lower readiness, it is important that the Army 'trains as it fights' and its Reserves are fully integrated.

489. An increased investment in our people, in conjunction with the training of overseas militaries, will be necessary to maintain a comparative advantage.

490. There is a need to exploit technological advances in simulation to enable more realistic training as the cost, both financially and environmentally, of live firing becomes less acceptable. Simulation, including war-gaming, should play a greater role in education and decision support as we invest more in personnel and recognising the complexity of the future operating environment. Simulation databases should provide mixed terrain content.

491. There will be a need to educate and train officers as well as soldiers to be able to exploit the available information to enable understanding and for specialist expertise to be generated to operate in a future cyber environment.

492. Improved resourcing of the lessons process at the joint, tactical, operational and strategic levels, and a culture of reinvestment of experience into education and training is required to maintain an agile edge.

493. The education and development of officers and non-commissioned officers must develop 'thinking leaders' at all levels to be able to innovate and be comfortable with ambiguity in order to gain the initiative and make decisions cognisant of identified and mitigated risk.

494. Selection and professional development of leaders at all levels must be based on cognitive and intellectual skills. Officers are required to work in much broader specialisations such as strategy, policy, cyber networks, intelligence exploitation, security sector reform, international and finance. This investment in specialist talent requires rigorous talent management, new career structures and the right incentives for it to be successful. The best thinkers need to be attracted and rapidly developed to create a talent pool of a modern *general staff* that can work as a network to solve problems in both the operational and business spaces.

495. The land force must recognise the benefits of importing best practice and innovation through external attachments to civilian establishments and should consider more flexible career structures and rewards, which recognise the contribution of subject matter experts. Such a structure should entice the best in key trade groups to stay in-role and provide continuity and continuous development.

496. We must have officers who are the masters of their profession of arms in the land environment. They must be able to innovate in chaos, and do so within a volatile international security situation that is likely to reveal unexpected 'wicked problems'.

497. Logisticians must be suitably trained and skilled to integrate contractors into the force. Logistic commanders and headquarters should be capable of providing the technical leadership and 'plug-ins' to ensure contractors are bound into the support force.

498. There remains an enduring requirement for specialist counter-terrorism training conducted by specialist forces.

CONCLUSION

The character of war will continue to change and evolve but many enduring truths are cast in the nature of war. The future will continue to be hallmarked by uncertainty, complexity and volatility. The land force must be able to fight and operate in the most likely, and the most complex, environments. The mindset that seeks to identify specific threats so as to allow the optimisation of forces to meet that threat needs to be changed. The land force, as a contingent force at readiness, will need to be able to adapt to unforeseen circumstances and have the ability to close the gap rapidly. Land forces, as part of a joint force, will invariably operate within a coalition framework and in concert with other government departments. Interoperability and interdependence will be critical requirements. Decentralisation will be a key operating principle enabled through networked command and control. This will demand an increased understanding, greater trust, a less introverted approach to risk and the integration of assets at an increasingly lower level. The joint force will need to train together, force develop together and ultimately, fight together as a unified force, harnessing the distinctive strengths of the single services and integrating the Reserves. Adaptability and integration will be the operational touchstones for future land forces.

The manoeuvrist approach has evolved to place understanding, as the critical enabler, and influence, achieved when behaviour is changed or maintained, at the centre of this philosophy. Manoeuvre is now multi-dimensional, in that it is about seeking to gain advantage over an opponent in the information dimension (including cyber), as well as the traditional dimensions of maritime, land and air (and increasingly space). The conceptual approach to how land forces, as part of the joint force, will operate in the future is set within the *understand to influence* framework. This recognises the importance of the coherent and effective application of power. Initiative, the acme of operational art, and the imperative to exploit, will be key.

A projectable warfighting capability on land is an important source of hard power and serves to deter, and if necessary, intervene, to fight and win the nation's wars. However, it is more cost-effective to invest in conflict prevention and de-escalation than to pay the costs of responding to violent conflict. As such, the military instrument should prevent, deter and contain threats first, only defeating them if necessary. *Defence engagement* is the

Conclusion

military contribution to soft power. A key aspect of this is the need for 'upstream prevention' to anticipate instability and potential triggers for conflict. However, there can be no soft power in defence without an underlying and inherently credible hard power.

To meet the diversity of demands and challenges confronting defence, the land force must be capable of three over-lapping core roles. These are: first, contingent capability for defence and deterrence; second, overseas engagement and capability building; and third, UK engagement and homeland resilience. These roles will be executed by the development of an adaptive force and intervention force. The successful prosecution of future operations will be largely dependent on developing the core capability of the land force – its soldiers, alongside marines and airmen. The impact of terrain, interaction with the population, and proximate lethality in the land environment, will continue to make leadership distinctively challenging and complex.

*For if the trumpet give an uncertain sound, who shall
prepare himself for battle?*

Corinthians 1, 14.8

LEXICON

PART 1 – ACRONYMS AND ABBREVIATIONS

The Lexicon contains acronyms / abbreviations and terms / definitions relevant to JCN 2/12, but is not intended to be exhaustive. For fuller reference to extant terminology see the current edition of JDP 0-01.1 *The UK Supplement to the NATO Terminology Database*.

AAP	Allied Administrative Publication
ADP	Army Doctrine Publication
ARRC	Allied Rapid Reaction Corps
CJIIM	Combined, Joint, Intra-governmental, Inter-agency, Multinational
FCOC	Future Character of Conflict
FLOC	Future Land Operating Concept
ISR	Intelligence, Surveillance, Reconnaissance
ISTAR	Intelligence, Surveillance, Target Acquisition, Reconnaissance
MOD	Ministry of Defence
NATO	North Atlantic Treaty Organization
SDSR	Strategic Defence and Security Review
UN	United Nations

PART 2 – TERMS AND DEFINITIONS

consequence management

The reactive measures used to mitigate the destructive effects of attacks, incidents or natural disasters. (JDP 4-03, 2nd Edition)

cyberspace

The interdependent network of information technology infrastructures (including the internet, telecommunications networks, computer systems, as well as embedded processors and controllers) within the information environment. (JDN 3/12)

cyber power

The ability to use cyberspace to create advantages and influence events in other operational environments and across the instruments of power. (JDN 4/11)

deterrence

The convincing of a potential aggressor that the consequences of coercion or armed conflict would outweigh the potential gains. This requires the maintenance of a credible military capability and strategy with clear political will to act. (AAP-6)

hard power

The threat or use of military coercion to influence the behaviour of states, groups or individuals, or to directly change the course of events. (JDP 0-01, 4th Edition)

human security

Human security is characterised by: freedom from persecution, want and fear, adequate provision of essential commodities such as water and food; broader environmental security; and the protection of cultural values. It is threatened by: ethnic and religious divisions; poverty, inequality, criminality and injustice; competition for natural resources; and corrupt and inept governance. (JDP 0-01, 4th Edition)

joint action

The deliberate use and orchestration of military capabilities and activities to realise effects on an actor's will, understanding and capability, and the cohesion between them to achieve influence. (JDP 3-00 3rd Edition, Change 1, due to be promulgated in summer 2012)

manoeuvre

The co-ordinated activities necessary to gain advantage within a situation in time and space. It places those seeking to create either a physical or psychological effect, or frequently both, in the right time and space to do so. (JDP 3-00, 3rd Edition)

regeneration

The timely activation, in full, or part of, existing force structures and infrastructure, including the restoration of manning, equipment and stocks to the designated levels. (AAP-6).

resilience

The ability of the community, services or infrastructure to withstand the consequences of an incident. (JDP 02, 2nd Edition)

soft power

The ability of a political body, such as a state or combination of states, to attract, and hence to persuade, other political bodies through cultural and ideological means or, by encouraging emulation. (JDP 0-01, 4th Edition)

strategic communication

Advancing national interests by using all defence means of communication to influence the attitudes and behaviours of people. (JDN 1/11)

understanding

In the context of decision-making, understanding is the perception and interpretation of a particular situation in order to provide the context, insight and foresight required for effective decision-making. (JDP 04).

Notes: