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FUTURE SECURITY ENVIRONMENT 2025

By

Peter Johnston

Dr. Michael Roi

September 2003

OPERATIONAL RESEARCH DIVISION

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FUTURE SECURITY ENVIRONMENT 2025

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OTTAWA, ONTARIO   September 2003

ABSTRACT

This report analyzes geopolitical, economic, social, military, environmental and health trends to develop an understanding of how the security environment over the next two decades may unfold. The intent of this project is to generate discussion among members of the Defence Management Committee as they develop Defence Strategy 2025. Additionally, this report should also become the point of departure for the ongoing discussions among the various force development staffs as they determine the capabilities the CF will likely need to be effective in the future. The intent of this report is not to predict with the certainty what the future will look like in 2025. Rather, the purpose is to initiate discussion on the possible and probable challenges the CF will face in the years ahead.

RÉSUMÉ

Dans le présent rapport, les tendances sur les plans géopolitique, économique, social, militaire, environnemental et de la santé sont analysées afin de mieux entrevoir la façon dont le contexte de la sécurité pourrait se développer au cours des deux prochaines décennies. L'objectif de ce projet consiste à susciter des discussions chez les membres du Comité de gestion de la Défense dans le cadre de l'élaboration de la Stratégie de la Défense de 2025. En outre, ce rapport devrait servir de point de départ des discussions continues entre les divers états-majors s'occupant du développement des forces lorsqu'ils détermineront les capacités dont auront vraisemblablement besoin les FC pour être efficaces dans l'avenir. Ce rapport ne visait pas à prédire avec certitude ce que sera l'avenir en 2025. Son but était plutôt de lancer le débat sur les défis possibles et probables qu'auront à relever les FC au cours des années à venir.

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EXECUTIVE SUMMARY

The future is uncertain, even if some of its features appear more or less probable. Despite the inherent uncertainty in forecasts about the future and the strong possibility that they will be proven wrong, the truth is that strategic planners do not have the luxury of eschewing them. Ensuring that the Canadian Forces (CF) has the capabilities to operate effectively in the years ahead requires that strategic planners within the Department of National Defence (DND) take a long-term perspective and peer into the future. Generating defence capabilities is, by nature, a long-term endeavour. Capability acquisitions must not only meet the demands of today but also the requirements of tomorrow. For this reason, strategic planners must think about the principal factors that will shape the crisis and conflict environments in which the CF may be expected to operate fifteen to twenty years from now. This analysis of the future security environment does not attempt to capture all possible developments in the world of 2025. Rather, it has been created and shaped from the outset with a view to assist the process of strategic planning for the CF. Its main objective is to generate discussion about the future security environment and to help frame the emerging dialogue on the appropriate long-term strategic vision and supporting plans that will enable the CF to meet the challenges ahead.

At the end of the Cold War, many experts expressed the view that major interstate war had become obsolete. With the demise of Cold War antagonisms, many commentators insisted that a more peaceful and prosperous era had dawned. Some suggested that the triumph of Western liberal democracy and free market capital systems was inevitable and both would soon spread to all regions of the planet. More than a decade has passed since these sanguine prognostications appeared, and these years have been punctuated with much strife and violence in the international system. There may be some grounds for hope that liberal, democratic and peaceful values will triumph in the long run. But the problem will be getting there. Conflict and international strife have been major features of the post-Cold War security environment and will likely be with us over the coming decades.

Conflict will likely take many forms, which may even include the possibility of interstate war between major powers. If the past decade provides any guidance for the future, however, then it is very likely that much of the instability will be in the developing world and many of these conflicts will be intrastate in nature. While intrastate conflicts will be the most probable form of hostilities in the future, it does not preclude the

possibility of large-scale regional interstate war. The distinction here concerns what most people regard as an unlikely event as opposed to an unthinkable one. Without discounting the potential for large-scale interstate war, a consensus appears to be emerging on the remoteness of this threat. Increasingly, the focus of strategic planners should gravitate towards meeting the challenges of failing states and the civil wars they often trigger. The various problems created by failing states will be major concerns of the security environment for the next two decades and likely beyond.

A state's ability to compete in the global trade and investment system of the twenty-first century will largely determine whether it succeeds or fails. Failure will be further exacerbated by the difficulties arising from resource scarcity, especially fresh water and energy supplies, and also from the pressures of rapid urbanization, environmental degradation and pandemic disease. These problems will be brought home to the publics of the world's wealthiest countries through the global media and will likely be accompanied by an increasing number of demands for intervention. Those societies unable to compete economically or fight off pandemic disease will experience much chaos and violence. Those who succeed will also not escape unscathed, for they shall have to deal with the problems of others' failures.

The challenge confronting policy-makers of today and tomorrow will be to ensure that the benefits of globalization spread to the impoverished countries and regions of the world. Indeed, it is no exaggeration to say that the extent to which economic globalization can broaden prosperity will be one of the central factors determining the future security environment. Economic prosperity will likely reduce the attraction of violence and may even forestall some wars. Conversely, the collapse of state and regional economic growth in some areas will increase the likelihood of conflict in the future. In other words, globalization will play a large role in determining the future trouble spots and, if the economic benefits of the global trading system do not spread to the developing world, may sow the seeds of future conflicts. It seems likely that in the coming two decades economic globalization will continue to create both "winners" and "losers". In some cases, it may even exacerbate the gap between the so-called have and have-not states. The winners will be those states that are able to participate in the global economy, to comply with the strictures of international financial institutions, to withstand the scrutiny of an increasingly demanding international investment community and, ultimately, to attract investment. The losers will not be able to meet these conditions and will, therefore,

continue to confront persistent poverty. There seems a strong possibility that the world will be divided between successful states on the one hand and failing or failed states on the other, a world where there will be zones of stability and what might be labelled zones of chaos or instability. The result may, in fact, be growing resentment of the failing states towards the global system in general and the successful states in particular.

Globalization represents more than the emergence of the global economy, the ebb and flow of world investment and trade. It also involves the broader development of a globally-interconnected world, including world-wide, instantaneous electronic communications as well as global travel. The globally-interconnected world has become criss-crossed by both physical networks of communication (computer-assisted and internet-based) and also human networks based on shared interests and values, ties of ethnicity and nationality, and even common conviction, concern and ideology. Some of these networks take advantage of the by-products of globalization – increased mobility and enhanced communications – to pursue their political/religious objectives and criminal endeavours. Terrorist organizations will continue to take advantage of these developments in the coming decades to further their aims on the international stage. The appearance of world-wide terrorist networks, such as Al Qaeda, represents one of the greatest security challenges facing the world today with the potential of becoming an even graver threat in the future.

Like the role of globalization in world economic affairs, US predominance is so great that its influence is felt in every region of the planet. To put it another way, the role played by the United States in global affairs remains the most important geopolitical factor shaping the international security environment. It seems entirely reasonable to believe that the twenty-first century, like the twentieth, will indeed be America's century. Given the huge gap in military capabilities between the United States and its allies (and potential adversaries) – at the moment the gap appears to be on the verge of becoming even larger because of unmatched US investment in defence research and development – and based on the probable continuation of American dominance in the global economy, it seems certain that the United States will remain the sole world power for the next two decades and likely beyond.

If US forces retain their superiority on and under the sea, in aerospace and on land not to mention a willingness to use them, it is unlikely that any state would attempt directly to challenge US forces. Three significant developments flow from continued US military superiority. First, as the recent conflicts in Kosovo, Afghanistan and Iraq have

demonstrated, countries who wish their armed forces to participate in future international coalitions involving the United States, in addition to possessing a degree of technological compatibility with US forces, will have to be familiar with the doctrinal and conceptual underpinnings of what has recently been called "the new American way of war". The second development arising from US superiority is the potential that states will increase efforts to acquire WMD as part of a denial of access strategy. States may attempt to run a race with the United States, betting that they can gain, for example, a nuclear weapon capability sufficient to deter American military action before efforts are in place to forestall or deny this capability. The third development arising from continued US superiority is the prospect that adaptive adversaries will increasingly use asymmetric methods and approaches to offset America's advantages. While the United States retains great asymmetric advantages over potential adversaries, especially in the areas of military capabilities, technological acumen and wealth, it remains vulnerable to several forms of negative asymmetry. Weaker states or non-state actors that wish to challenge the United States or who regard it as an obstacle to some policy or ideological objective must avoid direct confrontations with US forces and look for ways to target American weaknesses.

The likelihood and scale of the menace posed by asymmetric threats to the US homeland became fully evident on 11 September 2001 with the terrorist attacks on the World Trade Center and the Pentagon. The realization that terrorist organizations such as Al Qaeda not only had the ability but also the willingness to cause a level of death and destruction that once had been associated exclusively with the abilities of nation states led to the most ambitious reorganization of America's national security architecture since the 1947–1948 reforms. It also brought with it a major reorientation of US national security strategy. Underlying the reorganization of US national security and a reorientation of its strategy is a mounting fear about the potential nexus between international terrorism and WMD proliferation.

Concerns about modern society's vulnerabilities and the catastrophic potential of a terrorist nuclear attack have created what might be called a convergence of fear. In turn, this fear has led to demands for greater homeland security. The United States is clearly moving ahead with plans to augment the security of the homeland, including such areas as enhancing law enforcement and domestic security procedures and practices. But it seems unlikely that the United States will attempt to defeat terrorist threats through homeland security measures alone. US policy-makers will continue to strengthen homeland security but they will also pursue an aggressive campaign of eliminating

terrorist bases of operations abroad. One of the great challenges confronting Canada in the years ahead will be defining an appropriate strategy that can deal with the inevitable shifts in US strategic focus as it responds to the evolving war on terrorism. As the importance of homeland security rises in response to the perception of threat, this will likely be accompanied by increased American emphasis on continental security cooperation. As the focus shifts to distant lands that offer sanctuary to terrorists, either tacitly or because they are unable to exert control over their territories, the United States will seek allies who are prepared to join them in eliminating these bases of operations.

Terrorist networks and transnational criminal organizations (TC0s) will likely continue to exploit the lawlessness of failed or collapsing states. In the future, Canadians may find that they will be frequently asked to intervene in the failing regions of the developing world where terrorists and criminals cohabitate and increasingly cooperate. Along with the possibility of terrorist use of failed states as bases of operations, a number of other emerging threats to stability will make collapsing states especially difficult operating environments for armed forces. There are numerous destabilizing factors but chief of among these will be disturbing demographic trends, rapid urbanization, resource depletion, water scarcity, pandemic disease, environmental degradation and climate change. Various combinations of these factors will play out in different ways depending on the local conditions. In some countries these trends, either singly or in combination, will contribute to state failure and possibly lead to civil war. The second-order consequences of these outcomes are substantial. They will include humanitarian crises, mass migration of refugees across borders, increased incidences of terrorist activities and, possibly, the transition from intrastate to interstate conflict as the crises spread across borders.

The net result of these trends will be a world that will remain volatile with a strong potential to become even more violent and unstable. Reducing the threats to security and the challenges to stability arising from this future environment will be extremely difficult. The effectiveness and relevance of the CF of 2025 requires making the right force development decisions today. These decisions must be influenced by a strategy designed to meet the challenges of the security environment over the next two decades.

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LIST OF ABBREVIATIONS

CF	Canadian Forces
CIA	Central Intelligence Agency (United States)
CIDA	Canadian International Development Agency
CSIS	Center for Strategic and International Studies
DFAIT	Department of Foreign Affairs and International Trade
DND	Department of National Defence
EBO	Effects Based Operations
EEZ	Economic Exclusion Zone
EMP	Electromagnetic Pulse
EU	European Union
G–8	Group of Eight Industrialized Nations
GDP	Gross Domestic Product
HEMP	High Altitude Electromagnetic Pulse
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immune Deficiency Syndrome
IIMCR	Institute for International Mediation and Conflict Resolution
IISS	International Institute of Strategic Studies
IMF	International Monetary Fund
NATO	North Atlantic Treaty Organization
QDR	Quadrennial Defence Review (United States)
SARS	Severe Acute Respiratory Syndrome
TB	Tuberculosis

TCOs	Transnational Criminal Organizations
TNW	Theatre Nuclear Weapons
UN	United Nations
US	United States of America
USD	United States Dollars
USMC	United States Marine Corps
VCDS	Vice Chief of the Defence Staff
WHO	World Health Organization
WMD	Weapons of Mass Destruction
WTO	World Trade Organization

FUTURE SECURITY ENVIRONMENT 2025

I – Introduction

> *The fact that the future is uncertain is no excuse for failing to make adequate preparations.*
>
> **USMC**, *Operational Maneuver FromThe Sea*.[1]

1.	The future is uncertain, even if some of its features appear more or less probable. Looking into the future is like standing on a shoreline peering out to sea through a heavy, dense fog. Things rise from the mist, move into focus and even appear to take on palpable form. As they get closer to the shoreline, their identity will likely be revealed. From a distance, however, their shape and nature remain elusive as they move in and out of the murk, often leaving little or no trace of their passing. One may even hear sounds upon the water indicating that boats and people are nearby. Experience and knowledge will help deduce what vessels may be there and who may pilot them. But one can never know for certain.[2] Like ships hidden by fog, the future can only be guessed at and will only take on definite form the nearer the observer draws towards it. Notwithstanding the best efforts of science fiction and fantasy writing, the simple fact is that one cannot foresee with certainty "the shape of things to come".

2.	Despite the inherent uncertainty in forecasts about the future and the strong possibility that they will be proven wrong, the truth is that strategic planners do not have the luxury of eschewing them. Ensuring that the Canadian Forces (CF) has the capabilities to operate effectively in the years ahead requires that strategic planners within the Department of National Defence (DND) take a long-term perspective and peer into the future. Generating defence capabilities is, by nature, a long-term endeavour. The complete life cycle of major CF platforms and systems from concept development through to acquisition, maintenance and operational use spans decades not years. Capability acquisitions must not only meet the demands of today but also the

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1 United States Marine Corps, *Operational Maneuver From the Sea. A Concept for the Projection of Naval Power Ashore* (Washington, DC: Department of the Navy, Headquarters US Marine Corps, 1996), p. 5. Available at http://www.dtic.mil/jv2010/usmc/omfts.pdf

2 A similar fog analogy has recently been used by Yale historian John Lewis Gaddis in discussing the difficulties confronting historians when they look through the mists of time. See John Lewis Gaddis, *The Landscape of History. How Historians Map the Past* (New York: Oxford University Press, 2002), pp. 1–5.

requirements of tomorrow. For this reason, strategic planners must think about the principal factors that will shape the crisis and conflict environments in which the CF may be expected to operate fifteen to twenty years from now. In other words, it is important to understand the potential operational challenges generated by the future security environment in order to ensure that the CF has the ability to carry out the roles set for it by Government policy.

3. The following analysis of the future security environment does not attempt to capture all possible developments in the world of 2025. Rather, it has been created and shaped from the outset with a view to assist the process of strategic planning for the CF. Its main objective is to generate discussion about the future security environment and to help frame the emerging dialogue on the appropriate long-term strategic vision and supporting plans that will enable the CF to meet the challenges ahead. Emphasis has been placed on the key geopolitical factors and functional issues that will have a significant impact on future operations two decades from now.[3]

4. The operational environment of the future, like that of the past, will largely be determined by the types of conflicts and the nature of the adversaries involved. Thus, it is useful to begin this analysis with an overview of the theme "war and the international system". This section addresses both the likelihood of war in the future and what types of conflicts will likely occur. The subsequent sections examine specific factors shaping the future security environment, highlighting potential crises and conflicts ahead. These sections deal with the following issues: the effects of economic globalization; the impact on global affairs should US predominance continue or recede; the emergence of international terrorism and the implications of the potential nexus between terrorism and Weapons of Mass Destruction (WMD) proliferation; and, finally, the role of resource scarcity, urbanization and environmental degradation in generating instability and crises in the developing world. In the conclusion, the findings and analysis from the preceding sections have been drawn together to highlight the key implications of the likely operating environments the CF may face in 2025.

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3 Technological developments have not been included here because these will be addressed in a separate publication.

II - War and the International System

The future ain't what it used to be.

Yogi Berra

Introduction

5.   Yogi Berra understood something that has often been missed by more erudite observers: the future has a way of failing to meet one's expectations. This could certainly be said of the hopeful forecasts about the future that appeared in the early 1990s following the demise of the intense division and rivalry of the Cold War. At the end of the East-West confrontation, predictions about the future international security environment often portrayed a global system on the verge of an unprecedented era of peaceful coexistence and unparalleled prosperity. Perhaps justifiably, these sanguine hopes reflected a sense of relief because the world had managed to evade the pervasive threat of nuclear Armageddon that many people feared would result from the tensions between the United States and the Soviet Union. The avoidance of nuclear war led international affairs experts to investigate the reasons why the Cold War did not produce a major conflagration, a development that contrasted sharply with the devastating wars that had repeatedly arisen between the Great Powers in earlier periods. A view began to emerge that it was, in fact, the nuclear rivalry and the threat of mutual annihilation that had helped to prevent conflict between the two superpowers. It seems somewhat ironic that, during the Cold War, nuclear weapons became both the gravest threat to a nation's security and, at the same time, the greatest motive force propelling the world towards peace. As John Lewis Gaddis succinctly put it: "It comes as something of a surprise, then, to realize that the most striking innovation in the history of military technology has turned out to be a cause of peace and not war."[4]

The End of Major War?

6.   While not denying the impact of nuclear weapons, other experts saw a more fundamental shift underway in the attitudes of policy-makers in the richest, most technologically-advanced countries of the world toward war itself as rational method of achieving political objectives. Having already lost its romantic appeal as a result of the

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[4] John Lewis Gaddis, *We Now Know. Rethinking Cold War History* (New York, 1997), p. 85. Gaddis made a similar point in an earlier publication. See also Gaddis, *The Long Peace: Inquiries into the History of the Cold War* (New York: Oxford University Press, 1987). For a different historical view of the role of nuclear weapons in the US-Soviet relationship, see Marc Trachtenberg, *A Constructed Peace. The Making of the European Settlement, 1945–1963* (Princeton: Princeton University Press, 1999).

death and destruction of the two global conflicts of the first half of the twentieth century, war at the end of the century was no longer seen as an effective or sensible means to secure or promote a nation's interests. War between advanced and prosperous nations had become increasingly unlikely, and some even said unthinkable.[5] One of the key developments behind the mounting aversion to war has been the growing economic interdependence of the nations of the world. It has been argued that the emergence of the interconnected global trading system laid the foundations of lasting peace. Increasingly prosperous and largely satisfied states will seek and live in peace, recognizing that the economic disruption caused by war severely damages the aggressor as well as the victim. Rational policy-makers will, therefore, always attempt to avoid conflict.[6] States have additional reasons for seeking to solve their disputes through peaceful means because the heavy financial burdens of preparing for war places strains even on the richest countries. This reinforces the trend towards reduced defence spending among the wealthy nations and undercuts the ability to launch hostilities. At the end of the 1980s amidst the culminating events of the Cold War, John Mueller expressed this viewpoint, going so far as to predict the obsolescence of major war:

> The elimination of major war, therefore, rests in the prospects that there will exist a "general unwillingness" for war – that war will become obsolete, subrationally unthinkable – not that it will become physically impossible or completely extinct . . . [War] in the developed world seems now to be rejected not so much because it's a bad idea, but because it's absurd, ridiculously incongruous. The idea that war is viable, accepted, and expected way of going about things is a necessary cause of war; if that idea fades, as it has with dueling and slavery, war can't happen.[7]

7.   Linked to this view of the impact of economic globalization was an assumption about the peaceful effects of the spread of liberal democracy. Francis Fukuyama emerged as the most articulate advocate of this view, beginning with his influential article "The End of History?" that appeared in the journal *The National Interest* in the summer of

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5 Professor John Mueller of Ohio State University was a strong proponent of this view. See John Mueller, *Retreat from Doomsday. The Obsolescence of Major War* (New York: Basic Books, 1989).

6 Michael Mandelbaum argues that traditional rulers had always regarded war as an option "subject to the calculation of costs and benefits." But in the second half of the twentieth century, he believes that the perceptions sharply tilted towards the idea that the costs had become too high and the benefits seemed less desirable. Michael Mandelbaum, *The Ideas that Conquered the World. Peace, Democracy, and Free Markets in the Twenty-first Century* (New York: Public Affairs, 2002), pp. 122–28.

7 Mueller, *Retreat from Doomsday*, p. 242. After surveying the long history of warfare, John Keegan – one of the most astute observers of the phenomenon of conflict and certainly much less of a "dove" than Mueller – also saw a glimmer of hope in the emerging prospect that humans were beginning to "unlearn" the habits of war. John Keegan, *A History of Warfare* (New York: Knopf, 1993), pp. 379–85. See the trenchant critique of the view that economic rationality will discourage war in Niall Ferguson, *The Cash Nexus. Money and Power in the Modern World, 1700–2000* (New York: Basic Books, 2001), pp. 395–425.

1989 and later expanded into a book.**8** The "triumph of the west" and "the universalization of Western liberal democracy as the final form of human government", Fukuyama insisted at the time, would gradually transform the international system. As a result of the triumph of liberal democratic values, the "nineteenth century model of great power behaviour [had] become a serious anachronism". Economic concerns, Fukuyama argued, would replace political and military strategic calculations as the most important issues facing policy-makers in the western, liberal democratic parts of the world. Disputes and difficulties between states would still remain but these problems would be solved through peaceful means.**9**

8.   Sadly, the bright future anticipated at the end of the long Cold War has not materialized. There may be some grounds for hope that liberal, democratic and peaceful values will triumph in the long run.[10] But the problem will be getting there. Conflict and international strife have been major features of the post-Cold War security environment, and will likely be with us over the coming decades. Since the collapse of the Berlin Wall, the world has been plagued by numerous and violent conflicts that have left many dead, societies in ruin and undermined confidence in a peaceful future.[11] The contrast could not be starker between the optimistic expectations of the immediate post-Cold War period and the pessimistic misgivings about the future that are routinely advanced today. An early glimpse of this disillusionment with the post-Cold War world came in February 1994 with the appearance of "The Coming Anarchy" by the journalist Robert Kaplan. Using the recent upheaval in Sierra Leone as his backdrop, Kaplan sketched a picture of the future that was ominous, beset by ethnic and ideological conflict, in what he saw as the "coming anarchy" of the twenty-first century.[12] While one can certainly challenge

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8 Francis Fukuyama, "The End of History?" *The National Interest*, Summer 1989, and Fukuyama, *The End of History and the Last Man* (New York: Free Press, 1992). According to Fukuyama's website at Johns Hopkins University, this book has appeared in 23 languages. See http://www.sais-jhu.edu/faculty/fukuyama/.

9 There were, of course, early dissenting views about the prospects of a peaceful, democratic future. See Joseph Nye, What New World Order?" *Foreign Affairs* 71 (Spring 1993), 83–96; Samuel P. Huntington, "The Clash of Civilizations?" *Foreign Affairs* 71 (Summer 1993), 22–49; and Huntington, *The Clash of Civilizations and the Remaking of the World Order* (New York: Simon and Schuster, 1996).

10 A strong argument for this possibility has been made in Mandelbaum, *The Ideas that Conquered the World*. As Mandelbaum cautiously asserts on page 398, "a world of liberal sovereign states qualifies as the second-best solution, after world government, to the problems of nuclear war, economic collapse, and global climate change. If not the best of all imaginable solutions, it is the best of all feasible ones. Whether it would prove to be good enough to cope with these problems in the twenty-first century is a question to which only the history of that century could furnish an answer."

11 According to the "The 2000–2001 World Conflict & Human Rights Map" of The Institute for International Mediation and Conflict Resolution (IIMCR), since the Persian Gulf War, as many as 210 million people have been killed, wounded or displaced by conflict. The IIMCR map can be viewed at http://www.iimcr.org/ imgs/Conflictmap% 202001-g.pdf. See also Max G. Manwaring, *The Inescapable Global Security Arena.* Strategic Studies Institute (SSI) Report (April 2002), p. 30, note 1.

12 The original piece appeared in *The Atlantic Monthly* (February 1994), reprinted in Robert Kaplan, *The Coming Anarchy: Shattering the Dreams of the Post Cold War* (New York: Random House, 2000), ch. 1. Kaplan has certainly not been alone in predicting much chaos and instability in the future. See also Thomas Homer-Dixon, *The Ingenuity Gap: How Can We Solve the Problems of the Future?* (Toronto: Knopf, 2000). Kaplan had, in fact, interviewed

Kaplan's bleak vision, his book effectively captures the widespread disillusionment with the post Cold War future that emerged in the aftermath of conflicts in the Balkans and elsewhere. Human tragedies from the Balkans to Bogotá in the 1990s have done much to dampen the ardour of the most confident believers in a peaceful future and have been instrumental, as the subtitle of Kaplan's book suggests, in "shattering the dreams of the post Cold War". Unlike the immediate post-Cold War period, today more and more experts see a future security environment fraught with chaos, crises and conflict. It is no longer a question of "if war will come" but rather where will it happen and what will it look like?

Future Hostilities

9.   If the past decade provides any guidance for the future then it is very likely that much of the instability will be in the developing world and many of these conflicts will be intrastate in nature.[13]   While intrastate conflicts will be the most probable form of hostilities in the future, it does not preclude the possibility of large-scale global or regional interstate war. The distinction here concerns what most people regard as an unlikely event as opposed to an unthinkable one. Without discounting the potential for large-scale interstate war, a consensus appears to be emerging on the remoteness of this threat. Most experts endorse the idea that global conflict between wealthy states – the Great Power wars of the twentieth century or what Philip Bobbitt refers to as "epochal war" – seems to be increasingly remote, though most accept that major regional crises will continue.[14] As Bobbitt points out in *The Shield of Achilles*: "Virtually no one, apart from a few apocalyptic millennialists, is concerned about the possibility of large-scale war at the present time."[15]   Moreover, there is general agreement about the conditions under which large-scale interstate war might erupt in the future: it is widely assumed that it would take a substantial and prolonged breakdown in the global economy to create the circumstances that might lead to the renewal of the intense rivalry among the Great Powers that produced the global conflicts of previous centuries.[16]

Homer-Dixon during the preparation of "The Coming Anarchy".

13 According to The International Institute of Strategic Studies (IISS), there has been a reduction in 2002 in the number of conflicts, the majority of which have been intrastate in nature. The IISS estimates that there are 25 active armed conflicts in the world today (17 internal armed conflicts and 7 international armed conflicts) compared to 31 in 2001 (37 in 2000, 35 in 1999 and 1998, 36 in 1997). See summary of *Chart of Armed Conflict 2002* at http://www.iiss.org/conferencepage.php?confID=37.

14 Bobbitt defines epochal war as the following: "a war that challenges and ultimately changes the basic constitutional structure of the State, by linking strategic to constitutional innovations." In other words, it is a conflict whose intensity and duration alters the state and, by extension, the international system. Philip Bobbitt, *The Shield of Achilles. War, Peace, and the Course of History* (New York: Knopf, 2002), p. 907.

15 *Ibid.*, p. 778.

16 For a discussion of the consensus on the preconditions necessary to trigger global conflict in the future, see Sam J. Tangredi, *All Possible Wars? Towards a Consensus View of the Future Security Environment, 2001–2025.* MacNair Paper 63 (Institute for National Strategic Studies, National Defence University, 2000), pp 124–26.

10.   An economic collapse on this scale, especially if it triggered increased defence spending among the Great Powers, would be conspicuous, providing sufficient strategic warning and time to react.[17] An important caveat must be added here. Strategic warning traditionally depended on a nation's ability to detect an adversary's acquisition of capabilities requiring both large capital investment and significant resource allocation.[18] In the future, however, it will be somewhat more difficult to anticipate the prospect of a large-scale cyber attack aimed at a nation's critical infrastructure. "Unlike conventional warfare," Bobbitt argues, "this type of operation would offer little strategic warning and few indications of an imminent assault."[19] Nevertheless, from a strategic planning perspective, it seems reasonable to regard large-scale global interstate war – like the two world wars of the twentieth century – as a remote possibility, especially if one accepts that it would take a prolonged global economic crisis to lay the foundation for such a conflict.[20] "The minimal likelihood of such a conflict in the wake of the Cold War," insists Michael Mandelbaum, "sets the twenty-first century dramatically apart from the two preceding eras."[21]

11.   Concern still exists, however, about the prospects of an interstate war between major regional powers, especially in Asia.[22] In the past decade, war involving India and Pakistan, North Korea and its neighbours or even China and the United States arising from a dispute over Taiwan have at one time or another emerged as genuine possibilities. In the latter case, much has been written recently about a looming China-US conflict arising from China's eventual emergence as a dominant regional power in Asia and the challenge this poses to American interests in the region.[23]   Among American

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17 The literature on strategic warning continues to grow. Richard Betts and Michael Handel have done much of the path breaking work on strategic warning and intelligence failure. See Richard K. Betts, "Analysis, War, and Decision: Why Intelligence Failures Are Inevitable," *World Politics* 31, 2 (October 1978), 61–89; Michael I. Handel, "Intelligence and the Problem of Strategic Surprise," *Journal of Strategic Studies* 7, 3 (September 1984), 229–81; and Handel, "Technological Surprise in War," *Intelligence and National Security* 2, 1 (January 1987), 1–53. For historical case studies of surprise, see John Gooch and Amos Perlmutter, eds. *Military Deception and Strategic Surprise* (London: Frank Cass, 1982); Abraham Ben-Zvi, "Between Warning and Response: The Case of the Yom Kippur War," *International Journal of Intelligence and Counterintelligence* 4, 2 (Summer 1990), 227–42; D.C. Watt, "An Intelligence Surprise: The Failure of the Foreign Office to Anticipate the Nazi-Soviet Pact," *Intelligence and National Security* 4, 3 (July 1989), 512–34; and James Wirtz, *The Tet Offensive: Intelligence Failure in War* (Ithaca: Cornell University Press, 1991).
18 The difficulty in tracking defence capabilities and threats by scrutinizing economic indicators and resource allocation is well captured in Noel H. Firth and James H. Noren, *Soviet Defense Spending: A History of CIA Estimates, 1950–1990* (College Station: Texas A & M University Press, 1998). Despite the use of sophisticated economic analytical tools, the CIA had enormous trouble in providing accurate estimates of the level of Soviet spending on defence.
19 Bobbitt, *The Shield of Achilles*, p. 791.
20 As Tangredi rightly points out, "preparing for worldwide economic collapse is outside the scope of practical military planning." Tangredi, *All Possible Wars*, p. 138.
21 Mandelbaum, *The Ideas that Conquered the World*, p. 8.
22 On the rising military competition in Asia, including the development of anti-access capabilities, see Paul Bracken, *Fire in the East: The Rise of Asian Military Power and the Second Nuclear Age* (New York: Perennial, 1999).
23 Much of the literature on the potential clash between the United States and China has been written by journalists, see for example Richard Bernstein and Ross H. Munro "China I: The Coming Conflict with America," *Foreign Affairs*

commentators, there has been much anxiety about the possibility of China becoming, to use the parlance of the American *Quadrennial Defense Review*, a regional peer competitor of the United States in the future.[24] While it seems certain that China's economic and political influence in Asia will grow over the next two decades, it is simply not possible to predict with certainty how this situation will evolve vis-à-vis US interests in the region. Conflict between China and the United States in the future cannot be ruled out, but it is also possible that these powers will be able to manage the difficulties in their relationship through peaceful negotiations.[25] Thus, it seems sensible to regard a China-US conflict as little more than a remote possibility at this stage. Moreover, the international community would likely receive some strategic warning should China-US relations seriously deteriorate or should a bipolar division re-emerge similar to the Cold War confrontation. This would permit time to respond, adjust plans and reallocate resources if necessary. Like large-scale global interstate war, it seems reasonable for strategic planning purposes to accept a degree of risk in categorizing a China-US war as an unlikely eventuality.

12.   Assessing the possibility of major regional hostilities in Asia involving North Korea presents equally difficult challenges. But an important distinction must be made between near-term and long-term threats. North Korea certainly remains a tangible threat to its neighbours and Asian stability in general but it represents more of a near-term concern, "the lingering inheritance of the Cold War" as Steven Metz has aptly described it.[26]   In addition to "lingering" concerns about North Korea, there is the ever-present danger of an unintended nuclear confrontation in Asia. As Paul Bracken points out, "The shaky control of Asian nuclear forces increases the danger of accidental or unintended war. Asian states share all the problems of physical security and reliable communications that plagued the first nuclear states, but unique conditions in Asia heighten the danger."[27] When contemplating the possible use of nuclear weapons in Asia, it is important to look at both political calculations of individual states towards nuclear escalation and also the

76, 2 (March/April 1997), 18–32; and idem., *The Coming Conflict with China* (New York: Knopf, 1997); and Bill Gertz, *The China Threat: How the People's Republic Targets America* (Washington: Regnery Publishing, 2000). Also see Felix Chang, "Conventional War Across the Taiwan Straits," *Orbis* 40, 4 (Fall 1996), 577–608; Steven W. Mosher, *Hegemon: China's Plan to Dominate Asia and the World* (San Francisco: Encounter Books, 2002); Michael Pillsbury, ed., *Chinese Views on Future Warfare* (Washington: National Defense University Press, 1998); Mark A Stokes, *China's Strategic Modernization: Implications for the United States* (Carlisle, PA: US Army War College, 1999); and Edward Timperlake and William C. Triplett, *Red Dragon Rising: Communist China's Military Threat to America* (Washington: Regnery Publishing, 2002).

24 *Quadrennial Defense Review Report 2001*, US Department of Defense, 30 September 2001.

25 For a discussion of the difficulty in predicting the future direction of Chinese-US relations, especially in the aftermath of the terrorist attacks of 11 September 2001, see Mohan Malik, *Dragon on Terrorism: Assessing China's Tactical Gains and Strategic Losses Post-September* 11. (Carlisle, PA: Strategic Studies Institute, 2002).

26 Steven Metz, "Battlespaces of 2012–2025," Unpublished manuscript prepared for the Directorate of Defence Analysis (March 2003), p. 1.

27 Bracken, *Fire in the East,* p.119.

technological aspects of command and control among the various nuclear states. While the political threshold determining the use of nuclear weapons in India and Pakistan, for example, may be high – perhaps, even unthinkable – there are technological and geographical factors that make the use of nuclear weapons in an India-Pakistan dispute more likely than in the previous US-USSR nuclear relationship.[28] Too many observers apply the apparent rules that governed US-USSR management of their nuclear relationship to the situation between India and Pakistan. Effective management of nuclear escalation requires a robust command and control capability and a high degree of confidence in one's ability to determine whether a nuclear attack is imminent to counterbalance the fear of preemptive strikes. Given the proximity of the two countries and their limited surveillance capabilities, the margin of error is much smaller in the India-Pakistan nuclear relationship and, as a result, the potential use of nuclear weapons is much greater. An unintentional conflict between India and Pakistan as a result of miscalculation remains a possibility. The prospects of hostility in Central and South Asia involving Pakistan would certainly increase should the Government of General Pervez Musharraf collapse or be taken over by Islamic extremists.[29] In short, major war in Asia cannot be ruled out in the near future. How this situation will evolve beyond the next few years cannot be known for certain.

Risk Management

13.   Strategic planners must, therefore, accept uncertainty on this issue, realizing that major regional war in the coming decades cannot be discounted. This does not mean that such a conflict is a likely prospect. Rather, it simply means that it cannot be dismissed and that it requires measures to manage the risk arising from this contingency. Short of full planning and resource allocation, there are two broad approaches to managing risk and mitigating the possibility of a major regional interstate war in the future. Each approach involves a different level of risk in terms of readiness for higher intensity combat, which in turn affects the degree to which and in what ways armed forces can be used to support national objectives in more hostile conflict environments.

14.   The first approach, sometimes called a "hedging" strategy, requires the retention of existing systems or the limited acquisition of new platforms in order to train for combat and ultimately be able to deploy to hostile environments associated with higher

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28 For an insightful analysis of the role of nuclear weapons in the India-Pakistan relationship, see Mohan Malik, "The China Factor in the India-Pakistan Conflict," *Parameters* 33, 1 (Spring 2003), 35–50. For an overview of recent developments in the India-Pakistan relationship, see The International Institute for Strategic Studies, *Strategic Survey 2002/2003* (London: Oxford University Press, 2003), pp. 207–219.

29 As Malik asserts, "The scenario of Pakistan in splinters, with one piece becoming a radical Muslim state in possessions of nuclear weapons, can no longer be simply rejected as an alarmist fantasy." Malik, "The China Factor in the India-Pakistan Conflict", p. 47.

intensity conflicts. Hedging may also involve an asymmetrical approach to resource allocation, favouring one service over others in the maintenance of higher-intensity combat capabilities. However, asymmetrical resource allocation is risky because there is no guarantee that the service receiving the bulk of resources will be the one demanded by the situation or best able to support government objectives. It may also make efforts to promote a joint force more difficult because of the service-specific approach to higher-intensity, warfighting capability development. In terms of acquiring limited capabilities, this can be done in two ways. It might consist of scaling back on the serial run of a replacement platform or replacing a system with one that does not fully replicate an extant capability. The advantage to hedging is that it permits resource concentration on capabilities best suited for the most likely conflict environments, while retaining enough residual capacity to enable the forces to plan and surge for the more unlikely higher-intensity possibilities. It may also assist efforts to identify capabilities or systems that are useful in both low and higher intensity situations.[30] The CF, for instance, could focus on the low to medium-intensity range of operations without having to exclude the possibility of participating in the higher intensity conflict environments. Hedging offers flexibility to governments because armed forces retain the capacity to surge or resurrect capabilities for higher-intensity conflict environments should the need arise. The hedging approach and the ability to surge must be supported by an effective system of training, concept development and experimentation. There are risks attached to a hedging strategy. Hedging involves risk in terms of readiness for higher-intensity combat because it presumes that sufficient warning would be provided to resurrect the necessary capabilities. In addition, it requires agreement on the most likely crises and conflicts in the future and, by extension, making choices on the investment of limited resources.

15.   The second approach involves a high degree of risk in terms of readiness and *de facto* limitations on force deployments to higher intensity combat environments. Divesting completely of traditional combat capabilities connected with higher intensity combat in order to specialize on less intense operations necessitates that one accepts the inability to participate in more hostile environments or to limit involvement to combat-support.[31] Such a decision must be based on a thorough appreciation of the risk involved,

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30 For example, Special Operations Forces and uninhabited vehicles have roles to play in both low and high intensity conflict environments.
31 Take, for example, the idea of eliminating heavy armoured combat vehicles. While it may be too early to draw conclusive lessons from the recent war in Iraq, the emerging perception is that heavy armoured combat vehicles, like the American M-1A1/A2 (Abrams) main battle tank, proved indispensable. They certainly provided a key direct fire role and sustained the rapid ground manoeuvre of coalition forces on the drive to Baghdad. For a discussion of the emerging lessons, see Anthony H. Cordesman, *The "Instant Lessons" of the Iraq War: Executive Summary* (14 May 2003). Draft publication of the Center for Strategic and International Studies (CSIS) available on the CSIS website. See page 53 for specific discussion of the US M-1A1/A2. See the insightful discussion of the combination of firepower and manoeuvre in Stephen Biddle, "Afghanistan and the Future of Warfare," *Foreign Affairs* 82, 2 (March/April 2003), 31–46.

including recognition of the limitations of the level of combat operations to which forces can be deployed and an understanding of the potential impact this would have on a nation's relationships with its allies and coalition partners. Decision makers must also accept that it virtually eliminates the capacity to surge or resurrect capabilities for higher intensity combat should the situation demand these in the future. The risk here is to a country's influence in the international system because it no longer possesses the ability to be an active participant in more robust peace and security operations.

16.   It may be true, as Metz suggests, that in the long run the focus of strategic planners will likely shift away from preparing for interstate war and towards meeting the challenges of intrastate conflicts and the problems associated with failed or collapsing states.[32] But this transition will be slow, measured over decades not years. As Metz points out, interstate war "will remain a serious threat for at least several more decades." Consequently, he believes that prudence is required, adding that:

> A state that allows its capabilities at traditional interstate war to atrophy
> will be dependent on others for its security. All nations need not to follow
> the American pattern and retain across-the-board capabilities for sustained,
> large-scale warfighting, but will at least need to be able to contribute to
> coalitions designed to deter or defeat conventional aggression.[33]

17.   It will be necessary then to study and plan for both interstate and intrastate wars in the twenty-first century. Increasingly, the focus will gravitate towards meeting the challenges of the latter but the former will not necessarily disappear. In addition, the strong possibility exists that intrastate conflicts in the developing world will generate larger interstate wars, especially if there is reluctance on the part of the more developed nations to intervene at an early stage. It can be argued that an unwillingness "to undertake numerous, apparently endless small conflicts . . . will make larger wars more likely, risking the widening of small, seemingly irrelevant conflicts."[34] In other words, inaction runs the risk of gradually increasing anarchy and raising the prospects of larger wars perhaps even between major powers.

18.   Many of the twenty-first century conflicts will be ongoing ones, the legacy of the last century, but others will be new, involving different combatants armed with fresh grievances. A disturbing trend of the emerging security environment is the rise in combatants who operate independent of formal government structures. International

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32 Metz, "Battlespaces of 2012–2025", p. 14.
33 *Ibid.*
34 Bobbitt, *The Shield of Achilles*, pp. 341–42.

terrorists, paramilitary and tribal forces, transnational criminals and other non-state actors have emerged as major security challenges. Failed states often provide havens for these non-state warriors and criminals because the lack of central government control enables them to operate relatively unhindered by state security or police forces. The problems generated by failing states and collapsing regions will command much of the world's attention, preoccupying defence and security forces for the next decade and well beyond.

19.   These problems, together with the rise of non-state actors with the potential to cause levels of destruction that have traditionally been associated with the resources of nation states, will continue to bring dramatic changes to the international security environment. As a result, some experts argue that armed conflict, too, is undergoing significant change. Ralph Peters has written about this shift taking place and the impact it is having on the nature of armed conflict:

> The paradox of the next century is that it will be one of fabulous wealth for us, but of bitter poverty for billions of others. The world will not "come together", but has already begun to divide anew between open and tradition-bound societies, between rule-of-law states and lawless territories with flags, and between brilliant postmodern economies and cultures utterly unequipped for global competition. We will be envied and hated by those without a formula to win. In the twentieth century, we had to worry about successful industrial states and the militaries they produced. In the next century, the threats will arise from the realms of failures.[35]

Conclusion

20.   Will twenty-first century armed conflict be different from its twentieth century predecessor, including who fights, how they fight and why they fight? Accepting Peters' view has serious implications for strategic planning for it affects the way we define the appropriate military organizations, strategy, concepts, doctrine and training. It seems likely, as Peters suggests, that much of the world's attention in the future will be focused on threats that come from the "realms of failure", arising from "cultures utterly unequipped for global competition". A state's ability to compete in the global trade and investment system of the twenty-first century will largely determine whether it succeeds or fails. Failure will be further exacerbated by the difficulties arising from resource scarcity, especially fresh water and energy supplies, and also from the pressures of rapid urbanization, environmental degradation and pandemic disease.   These problems,

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35 Ralph Peters*, Beyond Terror. Strategy in a Changing World* (New York: Stackpole Books, 2002), p. 325.

discussed in the following pages, will be brought home to the publics of the world's wealthiest countries through the global media and will likely be accompanied by an increasing number of demands for intervention. Those societies unable to compete economically or fight off pandemic disease will experience much chaos and violence. Those who succeed will also not escape unscathed, for they shall have to deal with the problems of others' failures.

III - Globalization: A "Bifurcated" World?

No longer is it a question of whether globalization is good or bad: globalization is a powerful force that has brought enormous benefits to some. Because of the way it has been mismanaged, however, millions have not enjoyed its benefits, and millions more have even been made worse off. The challenge today is how to reform globalization, to make it work not just for the rich and the more advanced industrial countries but also for the poor and the least developed countries.

Joseph E. Stiglitz, *Globalization and Its Discontents.*[36]

Introduction

21.   One cannot help but be struck by the sense of disappointment in Stiglitz's observations about globalization. As a Nobel prize-winning economist, former economic advisor to President Bill Clinton and ex-chief economist and senior vice president at the World Bank, his views certainly deserve close attention. Stiglitz strongly believes in the promises of globalization, notably its ability to spread economic benefits to more and more people. In his view, globalization has the potential to improve and has already ameliorated the lives of people around the world. "Because of globalization," Stiglitz writes, "many people now live longer than before and their standard of living is far better." He adds that, "People in the West may regard low-paying jobs at Nike as exploitation, but for many people in the developing world, working in a factory is far better option than staying down on the farm and growing rice."[37] Despite his faith in the enormous potential of globalization, Stiglitz is keenly aware that a gap exists between the promise of economic development and the reality of wealth creation in recent years. Over the past decade, many people saw their standard of living not only fail to improve but, in some cases, even deteriorate. The statistics are telling. According to Anthony Giddens, "The share of the poorest fifth of the world's population in global income has dropped, from 2.3 per cent to 1.4 per cent between 1989 and 1998. The proportion taken by the richest fifth, on the other hand, has risen. In sub-Saharan Africa, 20 countries have lower incomes per head in real terms than they had in the late 1970s."[38]

22.   The challenge confronting policy-makers of today and tomorrow will be to ensure that the benefits of globalization spread to the impoverished countries and regions of the world. Indeed, it is no exaggeration to say that the extent to which economic

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36 Joseph E. Stiglitz, *Globalization and Its Discontents*(New York: W.W. Norton, 2003), p. 253.
37 *Ibid.,* p. 4.
38 Anthony Giddens, *Runaway World. How Globalisation is Reshaping our Lives* (New York: Routledge, 2003), pp. 15–16.

globalization can broaden prosperity will be one of the central factors determining the future security environment. Economic prosperity will likely reduce the attraction of violence and perhaps even forestall some wars. Conversely, the collapse of state and regional economic growth in some areas will increase the likelihood of conflict in the future.[39] In other words, globalization will play a large role in determining the future trouble spots and, if the economic benefits of the global trading system do not spread to the developing world, may sow the seeds of future conflicts.

Winners and Losers

23.   Stiglitz insists that "globalization can be reshaped to realize its potential for good", providing numerous suggestions on how to reform the World Trade Organization (WTO), the International Monetary Fund (IMF) and other global financial structures to assist the poorer regions of the world deal with the challenges of competing in the global trading and investment system.[40] There may be grounds for hope, but it seems likely that in the coming two decades economic globalization will continue to create both "winners" and "losers". In some cases, it may even exacerbate the gap between the so-called have and have-not states. The winners will be those states that are able to participate in the global economy, to comply with the strictures of international financial institutions, to withstand the scrutiny of an increasingly demanding international investment community and, ultimately, to attract investment.[41] The losers will not be able to meet these conditions and will, therefore, continue to confront persistent poverty. There seems a strong possibility that the world will be divided between successful states on the one hand and failing or failed states on the other, a world where there will be zones of stability and what might be labelled zones of chaos or instability. Kaplan describes this future as the "bifurcated world". It is a place divided between countries whose economies flourish, producing goods and services sought by similarly successful states, and those societies whose economies falter, spiralling into chaos and conflict.[42] The prosperous parts of the world will undoubtedly desire and seek to live in peace, while the other parts will witness much violence and instability.

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39 The relationship between poverty and conflict is a complex one. Poverty is neither a sufficient nor a necessary precondition for conflict to arise. However, poverty tends to be an important factor in destabilizing states and societies. Instability may create a variety of security issues, which may include, at the most extreme end, civil conflict.

40 Stiglitz*, Globalization and Its Discontents*, see especially chapter 9.

41 In *The Lexus and the Olive Tree*, Thomas Friedman, a foreign affairs columnist for the New York Times, argues that globalization imposes what he calls a "golden straightjacket" on states, compelling them to adopt transparent business practices and accounting measures in addition to embracing democratic reform. Friedman's book provides an effective discussion of what it takes to compete successfully in the global economic system. Thomas L. Friedman, *The Lexus and the Olive Tree* (New York: Farrar, Straus & Giroux, 1999).

42 Kaplan, *The Coming Anarchy*, pp. 24–26.

24.   The result may, in fact, be growing resentment of the failing states towards the global system in general and the successful states in particular. Globalization is already widely distrusted in the developing world, Giddens argues, seen primarily as "the latest stage in the exploitation of the third world by the West – a project from which the rich countries gain at the expense of the poor."[43] Anti-globalization protests at the meetings of the WTO and G-8 summits have now become commonplace. Protesters from various countries increasingly work together forming what might be described as a loose global network opposed to globalization. It is difficult to determine what direction this protest might take in the future. One possibility is the eventual coalescence into a more formal, global movement based on a new and radical ideology, or even the recreation of the Cold War ideological division between, on the one hand, a reinvigorated twenty-first century version of Marxism and, on the other, liberal democratic capitalism.

Implications

25.   To a certain extent, an anti-globalization, anti-Westernization movement is already coalescing in the Arab-Islamic world.[44] Bernard Lewis, a leading Western scholar of Islamic culture and religion, makes an insightful distinction between modernization and Westernization:

> The emancipation of women, more than any other single issue, is the touchstone of difference between modernization and Westernization. Even the most extreme and most anti-Western fundamentalists nowadays accept the need to modernize and indeed to make the fullest use of modern technology, especially technologies of warfare and propaganda. This is seen as modernization, and though methods and even the artifacts come from the West, it is accepted as necessary and even as useful. The emancipation of women is Westernization; both for traditional conservatives and radical fundamentalists it is neither necessary nor useful but noxious, a betrayal of true Islamic values.[45]

Lagging behind other areas of the world, the Middle East will likely witness an increase in frustration, resentment, anger and, possibly, terrorism. Lewis offers a bleak picture of this region's future. He argues that a widespread belief exists in the Arab-Islamic world that "things are going badly" for Muslims compared to the modern successes enjoyed by

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43 Giddens, *Runaway World*, p. xx.

44 As Metz points out: "This region has had difficulty adapting to elements of globalization, remaining "mired in stagnation, anomie, poverty and repression". Metz, "Battlespaces of 2012–2015", p. 6.

45 Bernard Lewis, *What Went Wrong? The Clash Between Islam and Modernity in the Middle East* (New York: Perennial, 2002), p. 73.

the peoples of the West and Pacific Rim.[46] A pervasive sense of decline suffuses the Arab-Islamic parts of the world. Many look to an imagined and glorious past when the Islamic world had been wealthy and powerful. This former grandeur stands in marked contrast to the diminished influence of Islam today.[47] According to Lewis, the Islamic world, and the Arab regions in particular, is locked in a struggle between two worldviews. The first is anti-Western, glorifies the past, seeks to eliminate Western power and influence and wishes to establish an Islamic system based on the sharīʿa (Holy Law).   In contrast, the second view is one of reform, which aspires to create a "free and open society under a representative and responsible government".[48] How this struggle unfolds will be a major factor in shaping the future security environment. If the reformers fail to triumph, Lewis believes that "the outlook for the Islamic world, and perhaps for the West, will be grim."[49] He puts forward the disturbing conclusion that: "If the peoples of the Middle East continue on their present path, the suicide bomber may become a metaphor for the whole region, and there will be no escape from a downward spiral of hate and spite, rage and self-pity, poverty and oppression."[50]

26.   The fact that events in one region, such as the Middle East, may have serious implications for other parts of the world is itself part of the phenomenon of globalization. In essence, globalization represents more than the emergence of the global economy, the ebb and flow of world investment and trade. It also involves the broader development of a globally-interconnected world, including world-wide, instantaneous electronic communications as well as global travel. Today, people communicate with one another and travel the globe to a degree that would have astounded previous generations. Given the recent upheaval in the global travel industry, it is difficult to predict whether the trend towards increased world travel will continue. Improvements in communication technology may, in fact, reduce the demand for global travel in support of business activities, as "face-to-face" meetings will no longer require a person to be physically present in the room. In the sphere of global communications, however, there will likely be acceleration towards even greater "real time" connectedness. By 2025, according to the United States Commission on National Security/21st Century, "Most people and vast amounts of information will be accessible at all times, in all places, in a world where a tailored virtual work environment will accompany us whenever we wish. . . We will be

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46 Lewis makes a distinction between Islam in the Pacific Rim and the Middle East by drawing attention to the success of Indonesia and Malaysia among Pacific Rim countries both of which have predominantly Muslim populations.
47 Lewis, *What Went Wrong*, pp. 151–52.
48 *Ibid.*, p. 165.
49 *Ibid.*
50 *Ibid.*, 159.

able to associate 'virtually' with any person or group sharing our interests in hobbies, politics, ethnicity, or religion."[51]

27.   The globally-interconnected world has become, in other words, criss-crossed by both physical networks of communication (computer-assisted and internet-based) and also human networks based on shared interests and values, ties of ethnicity and nationality, and even common conviction, concern and ideology.   Some of these networks take advantage of the by-products of globalization – increased mobility and enhanced communications – to pursue their political/religious objectives or criminal endeavours. "The rise of global terrorism," writes Giddens, "like world-wide networks involved in money laundering, drug-running and other forms of organised crime, are all parts of the dark side of globalisation."[52]   The extent of this dark side of globalization became fully evident with the terrorist attacks of 11 September 2001.   Globalization "furnishes both the context of the attacks," Giddens insists, "and the means that made them possible." As he explains,

> The terrorists' target was the United States, the prime global power. They used jet aircraft as destructive weapons. In staging the events as they did, they had in mind a global media audience. The second plane crashed into the South Tower of the World Trade Centre [sic] about half an hour after the first – guaranteeing dramatic television coverage.   It has been estimated that a billion people across the world saw the second plane hit the South Tower in real time.[53]

In short, the appearance of world-wide terrorist networks, such as Al Qaeda, represents one of the greatest security challenges facing the world today with the potential of becoming an even graver threat in the future.   The following section examines the potential nexus between international terrorism and Weapons of Mass Destruction (WMD) proliferation.

28.   In addition to the emergence of international terrorists, globalization has been accompanied, as Giddens rightly points out, by the rise of transnational criminal organizations.   At the end of the Cold War, organized criminal groups sprang up and proliferated in Latin America, Asia and the former Soviet Union. Many of these groups

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51 Established in 1998, this Commission, chaired by US legislators Gary Hart and Warren Rudman, was created to conduct a thorough study of US national security processes and structures. Report of United States Commission on National Security/21st Century, *New World Coming: American Security in the 21st Century. Supporting Research and Analysis* (15 September 1999), p. 7. See also the path-breaking book by Frances Cairncross, *The Death of Distance: How the Communication Revolution Is Changing Our Lives* (Boston: Harvard Business School Press, 2001).

52 Giddens, *Runaway World*, p. xvi.

53 Giddens, *Runaway World*, p. xii.

have established links and have created what might be considered a loose transnational network of organized crime. Their activities are vast and varied and, increasingly, they overlap with those of terrorists.[54] They range from drug trafficking – heroin from Asia and cocaine from Latin America – money laundering, counterfeiting, illegal trade in dual-use and sensitive technologies, "unregulated migration" (human smuggling) and the illicit transfer of radiological and nuclear materials. One should not exaggerate the links between these two groups. In contrast to terrorists, organized crime generally wishes to remain outside the glare of publicity, preferring profits to notoriety.[55] Nevertheless, there appears to be increasing cooperation between organized crime and international terrorists.

Conclusion

29.   Whether it is the potential collapse of a region of the globe or the ongoing threat of international terrorism, managing the various problems associated with globalization poses an enormous challenge. One thing seems certain: the participation of the United States will not only be critical in shaping the global response to potential crises but also will be the crucial factor determining the future direction of the ongoing war against terrorism. The importance of US engagement in maintaining international peace and security became fully evident in the 1990s when the United Nations (UN) and the North Atlantic Treaty Organization (NATO) struggled with a series of problems in the Balkans. US involvement constituted a necessary precondition for the various military operations undertaken to bring stability to the Balkan region and, ultimately, to the conflict resolution that ensued.[56] In the future, the extent of US engagement in global affairs and whether American economic and military predominance continues will be significant factors shaping the security environment. The following section examines the specific impact on the future security environment in the event that US predominance continues or recedes, especially how it relates to the threats of WMD proliferation and international terrorism.

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54 Peter Chalk, "Low Intensity Conflict in Southeast Asia: Piracy, Drug Trafficking and Political Terrorism," *Research Institute for the Study of Conflict and Terrorism* 305/306 (Jan-Feb. 1998), 1–36; Rohan Gunaratna, "Bankrupting the terror business," *Jane's Intelligence Review* 12, 8 (August 2000), 51–55; Alison Jamieson, "Transnational Organized Crime: A European Perspective," *Studies in Conflict & Terrorism* 24 (2001), 377–87; Stefan Leader and David Wiencek, "Drug Money: The Fuel For Global Terrorism," *Jane's Intelligence Review* 12, 2 (Feb. 2000), 49–54. Tamara Makareno, "On the Border of Crime and insurgency," *Jane's Intelligence Review* 14, 1 (Jan. 2002), 33–35; idem., "Transnational Crime and its evolving links to terrorism and instability," *Jane's Intelligence Review* 13, 11 (Nov. 2001), 22–24; Joshua Sinai, "Islamic Terrorism and Narcotrafficking in Uzbekistan," *Defense & Foreign Affairs Strategic Policy* 5 (2000), 7–8; and Paul J. Smith, "The Terrorists and crime bosses behind the fake passport trade," *Jane's Intelligence Review* 13, 7 (July 2001), 42–44.
55 Chris Dishman, "Terrorism, Crime and Transformation," *Studies in Conflict & Terrorism* 24 (2001), 43–58; and Oded Löwenheim, "Transnational Criminal Organizations and security: the case against inflating the threat," *International Journal* 57, 4 (Autumn 2002), 513–36.
56 Robert Kagan, *Of Paradise and Power. America and Europe in the New World Order* (New York: Knopf, 2003), pp. 46–53; Richard Holbrooke, *To End a War* (New York: Random House, 1998); Ivo H. Daalder and Michael E. O'Hanlon, *Winning Ugly: NATO's War to Save Kosovo* (Washington: Brookings Institution Press, 2000).

IV - US Economic and Military Predominance

> *We are now in America's unipolar moment. The United States spends more on defense than the world's other major nations combined, and more on research and development in the defense sector than the rest of the world combined. The U.S. economy is more than twice the size of that of number two (Japan). The market value of companies like Microsoft and General Electric is larger than the national economies of many countries. Hollywood is so dominant that the French find themselves compelled to legislate protective barriers against U.S. television programs and movies lest America's cultural appeal extinguish their struggling entertainment industry. As a result of these asymmetries, great-power competition is at a minimum and most regions of the world enjoy peace.*

> **Charles A. Kupchan**, *The End of the American Era.*[57]

Whither the Unipolar Moment?

30. Few international affairs experts would challenge the notion that much of the world now lives, as Kupchan suggests, "in America's unipolar moment". Like the role of globalization in world economic affairs, US predominance is so great that its influence is felt in every region of the planet. To put it another way, the role played by the United States in global affairs remains the most important geopolitical factor shaping the international security environment. It seems entirely reasonable to believe that the twenty-first century, like the twentieth, will indeed be America's century. Given the huge gap in military capabilities between the United States and its allies (and potential adversaries) – at the moment the gap appears to be on the verge of becoming even larger because of unmatched US investment in defence research and development – and based on the probable continuation of American dominance in the global economy, it seems certain that the United States will remain the sole world power for the next two decades and likely beyond.[58]

31. Despite its clear supremacy in world affairs, Kupchan insists that America's unipolar moment is destined to disappear and sooner than most people assume. He argues that "two unstoppable trends" will bring about an end to American primacy, which

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57 Charles A. Kupchan, *The End of the American Era. US Foreign Policy and the Geopolitics of the Twenty-First Century* (New York: Knopf, 2003), p. 58. Kupchan is a senior fellow at the Council on Foreign Relations and a professor of international relations at Georgetown University. Prior to this, he served on the National Security Council under President Clinton.

58 See "Table 26: International Comparisons of Defence Expenditures and Military Manpower, 1985, 2000, and 2001", The International Institute for Strategic Studies, *The Military Balance 2002–2003* (London: Oxford University Press, 2002), pp. 332–37. For US defence research and development spending see, *Military Balance*, pp. 240–41.

he believes is "unlikely to last the decade".[59] The first trend is what he calls "the diffusion of power". Adopting a realist perspective that looks to historical precedents, Kupchan asserts that, "No dominant country has ever been able to sustain primacy indefinitely. Over time, other states catch up." The European Union (EU), he contends, will soon emerge as a clear economic competitor to the United States. With the appearance of the single market, accompanied by the creation of the single currency, the EU "has a collective weight on matters of trade and finance comparable to that of the United States." The result, Kupchan concludes, will be a rebalancing of the power relationship "between the two sides of the Atlantic."[60]

32.   Kupchan identifies four possible obstacles that may prevent the EU from emerging as a counterweight to the United States.[61] First, a "democratic deficit" exists in Europe between national and supranational political representation. Based on linguistic differences and unique national cultures, most people regard their own national assemblies as the highest political authority in Europe rather than the supranational EU institutions. Without democratic legitimacy, it may be difficult for the EU to act as the "single voice" for the various countries and peoples in Europe. The second obstacle is the demographic challenge associated with Europe's aging population and declining birth rates that will produce higher and, perhaps, unsupportable social welfare and medical expenditures. Without substantial immigration, rising welfare and medical costs may hamper economic growth and undercut the EU's emergence as a counterweight to the United States. The third obstacle is the potential dilution of central authority as a result of continued EU expansion, which is expected to happen in the next decade as the EU takes in more and more countries from the former Warsaw Pact. The fourth obstacle is the decline in defence spending among most EU states, making it unlikely that the Union as a whole will take on a more influential role in global affairs. Kupchan does not believe that these obstacles are insurmountable. Despite these hurdles, he remains convinced that Europe's wealth as well as its military capacity will increase and, as a result, "so will its appetite for greater international influence."[62]

33.   The second trend that Kupchan assumes will end US predominance in global affairs stems from what he refers to as the "changing character of internationalism in the United States."[63] As he explains, America's dominant role in global affairs rests not only on its military resources and economic might but also on its willingness to use these elements of national power in support of its foreign policy. "If the United States were to

59 Kupchan, *The End of the American Era*, p. 62.
60 *Ibid.*, pp. 62–63.
61 The four obstacles are discussed in detail in chapter 4: "The Rise of Europe".
62 *Ibid.*, p. 154.
63 *Ibid.*, p. 63.

tire of being the global protector of last resort," he writes, "unipolarity would still come undone even if American resources were to remain supreme."[64] Since the end of the Cold War, American political and popular opinion has been "steadily moving towards a more limited internationalism". Without a major adversary, Kupchan doubts whether the United States will continue to "feel compelled to play the role of global guardian."[65] In addition, when the United States does become involved in a particular international issue, he argues that it will do so on the basis of an "increasing unilateralism". Based on this combination of limited internationalism and increasing unilateralism and in the absence of a direct challenge to vital American interests, the United States will be less inclined to undertake the role of maintaining the existing international order.[66] The impact of US retrenchment, Kupchan insists, will be immense. He offers the following assessment: "No longer steadied by U.S. hegemony, processes of globalization and democratization are likely to falter, as are the international institutions currently dependent on Washington's leadership to function effectively. Geopolitical fault lines will reemerge among centers of power in North America, Europe, and East Asia."[67] These fault lines will reappear no matter what the United States does. However, Kupchan suggests that American policy makers, by demonstrating "strategic restraint" in yielding to the desire of the EU and other rising powers for greater influence in international affairs, can forestall the onset of hostile rivalry and instead "build bridges across" fault lines, establishing strategic partnerships with potential adversaries.[68]

34.   Kupchan's conclusions about US disengagement from global affairs whether as a result of diminished power or growing disinterest and the impact this would have on international peace and security merit closer attention. Few experts would cavil at the proposition that US withdrawal from global affairs would have a significant impact on the international order. However, scepticism appears warranted on the potential of the EU to become both an economic rival and a political counterweight to the United States. Much evidence exists to the contrary. Take demographic factors and their impact on economic growth. If current trends continue, by the year 2050, according to a recent article in *The Economist*, the US economy will be more than twice the size of its European counterpart.[69] This conclusion rests on divergent demographic trends on the two sides of the Atlantic. Specifically, Europe's population is aging much faster than

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64 *Ibid.*
65 *Ibid.*, p. 64.
66 *Ibid.*, p. 65.
67 *Ibid.*, p. 67.
68 *Ibid.*, ch. 7.
69 "Half a billion Americans?," *The Economist* 364, 8287, (24 Aug. 2002). Currently, Europe's collective GDP is roughly $8 trillion (USD), while US GDP stands at $10 trillion (USD). Kupchan, *The End of the American Era*, pp. 136–37.

America's. The current median age in Europe is 37.7, while in the US it is 35.5. In 2050, the situation may be very different. Should current trends carry on, the median age in Europe will be 52.7, but in the United States it will be 36.2, only marginally higher than the current median age. Combined with higher fertility rates in the United States, *The Economist* estimates that, "by 2040 and possibly sooner America will overtake Europe in population".[70] The United States also has an advantage over Europe in terms of immigration. The EU has been experiencing an immigration boom as well but the US rate has been even greater. Within the next two decades, it seems that, in the absence of substantial immigration, Europe will face a major demographic distortion, leading to rising expenditures on care for the elderly that threaten to undermine long-term economic growth.[71] The impact of Europe's demographic disadvantages, argues *The Economist*, will be "to entrench America's power and to widen existing transatlantic rifts."[72]

35.   If this forecast by *The Economist* turns out to be accurate, it is difficult to imagine the European countries individually and even collectively in the EU playing a more influential role in global affairs, and certainly not on the same level as the American giant. Even Kupchan seems to accept that "the rise of Asia may in the long term spell more trouble for the West than the return of rivalry between North America and Europe."[73] The potential emergence of China as a leading power by the third decade of the twenty-first century, he acknowledges, may pose a greater challenge to US predominance than a rising EU.

36.   Kupchan's argument that the United States may choose to retreat from its position as the leading actor in global affairs in spite of its relative economic and military power likewise deserves a second look. In contrast, Robert Kagan sees little reason why US policy-makers will not continue their efforts to exercise predominant influence in the world if US economic and military power remains unmatched. "If America's relative power will not diminish," Kagan writes, "neither are Americans likely to change their

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70 *The Economist* acknowledges that there will likely be fluctuations in birth rates over the next forty years. But adds the observation that recent trends indicate a striking underlying development: the steep rise in the American birth rates and the precipitous fall of the European rates. It is unlikely that Europe can bridge this gap.

71 *The Economist* points out that "Both Europe and American face fiscal problems in providing pensions and health care as their baby-boomers retire. On some estimates, by 2050, government debt could be equivalent to almost 100% of national income in America, 150% in the EU as a whole, and over 250% in Germany and France. So while the burden is growing on both sides of the Atlantic, it is much heavier in Europe."

72 Europe's large and growing Islamic population, estimated to be between 15 and 20 million, may also lead to increasing divergence on global issues between the EU and the United States. See William Horsley, "Muslims in Europe," *BBC World*, 11 October 2001, available at http://news.bbc.co.uk/2/hi/europe/1594066.stm, Sylvia Poggioli, "An Islamic Journey Inside Europe," Five Part Series on *National Public Radio News*, 24 –28 February 2003, available at http://www.npr.org/programs/atc/features/2003/feb/europe_muslims/, and Reuel Marc Gerecht, "Europe would have only Itself to Blame for Islamic Terrorism," *Financial Times*, 23 February 2003, available at http://www.aei.org/news/newsID.16033/news_detail.asp.

73 Kupchan, *The End of the American Era*, p. 158.

views of how that power is to be used." He adds that, "despite the seismic shifts that have occurred since 1941, Americans have been fairly consistent in their thinking about the nature of world affairs and about America's role in shaping the world to suit its interests and ideals."[74] On the one hand, it is conceivable that some internal problem or dynamic might diminish the willingness of Americans to act in a leading fashion to maintain the existing international system. At present, there does not seem, on the other hand, to be a fundamental shift away from active US engagement in the world. Certainly, the current US national security strategy, as articulated in the Bush Administration's September 2002 statement, appears to confirm the intention of American policy makers to work actively to ensure US global pre-eminence:

> The United States must and will maintain the capability to defeat any attempt by an enemy—whether a state or non-state actor—to impose its will on the United States, our allies, or our friends. We will maintain the forces sufficient to support our obligations, and to defend freedom. Our forces will be strong enough to dissuade potential adversaries from pursuing a military build-up in hopes of surpassing, or equaling, the power of the United States.[75]

37.   Whether the United States remains the dominant power in global affairs will be one of the central questions of the security environment in the years ahead. Indeed, Canadians and others must consider the consequences of both possibilities, that is to say a world in which US predominance either continues or disappears. The impact of American retrenchment has already been discussed above. It is important to understand the implications should the opposite occur and US maintain its pre-eminent role in global affairs.

Military Challenges to US Dominance

38.   If US forces retain their superiority on and under the sea, in aerospace and on land not to mention a willingness to use them, it is unlikely that any state would attempt directly to challenge US forces. Three significant developments flow from continued US military superiority. First, as the recent conflicts in Kosovo, Afghanistan and Iraq have demonstrated, countries who wish their armed forces to participate in future international coalitions involving the United States, in addition to possessing a degree of technological compatibility with US forces, will have to be familiar with the doctrinal and conceptual

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74 Kagan, *Of Paridise and Power*, p. 89.

75 The National Security Strategy of the United States of America (Washington: The White House, September 2002), p. 30.

underpinnings of what has recently been called "the new American way of war".[76] Those who want to contribute must be prepared, in other words, to finance capabilities to remain interoperable with American forces. For most countries this issue remains largely confined to the realm of expeditionary capabilities, specifically the ability to participate in operations outside of one's own country or region. Not so for Canada. America's military predominance poses unique and far-reaching problems for Canadian policy-makers because Canada's geographical proximity to the US makes this country particularly influenced by the growing US emphasis on homeland defence and North American continental security. Protecting the maritime and aerospace approaches to Canada and, in a larger sense, defending North America in cooperation with the US requires a degree of CF interoperability with American armed forces.[77] It may not require interoperability with US forces in all aspects of defence capability but the challenge, nevertheless, remains enormous. Like most other armed forces in the world, the CF faces the difficult task of deciding on where and to what degree it can keep up with American defence developments at a time when current US defence spending, as discussed above, continues to widen the gap between US capabilities and those of the rest of the world.

39.   The second development arising from US superiority is the potential that states will increase efforts to acquire WMD as part of a denial of access strategy.[78] States may attempt to run a race with the United States, betting that they can gain, for example, a nuclear weapon capability sufficient to deter American military action before efforts are in place to forestall or deny this capability – a strategic objective perhaps successfully achieved by North Korea.[79] The result may be greater WMD proliferation, including the spread of nuclear and radiological weapons. Notwithstanding the desire to possess these weapons, it is important to realize that nuclear weapons are technically demanding to

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76 "The 'New' American Way of War" was the title of the recent Annual Strategy Conference of the US Army War College, 8–10 April 2003 at Carlisle Barracks, PA.

77 A good discussion about the historical developments and current issues surrounding CF interoperability with US forces can be found in Danford W. Middlemiss and Denis Stairs, "The Canadian Forces and the Doctrine of Interoperability: The Issues," *Policy Matters* 3, 7 (June 2002), 3–38.

78 A state may threaten a nuclear attack on US forces, especially against staging or deployment areas and theatre support infrastructures in order to deter, slow or even halt the deployment of forces into an area of operations. Fixed installations such as ports, airfields and supply depots would be the most likely targets as opposed to the forces themselves because the latter are able to disperse. A more remote possibility but still a concern would be the use of a nuclear weapon to generate High Altitude Electromagnetic Pulse (HEMP). Instead of exploding an atomic bomb over expeditionary forces or an opponent's cities, states may elect to detonate a nuclear device above the earth's atmosphere. By doing so, they can generate a HEMP that threatens modern communication and information systems. HEMP is a byproduct of the explosion of a nuclear weapon detonated above the earth's atmosphere, typically above 30 kilometers. Electromagnetic pulse (EMP) results from the conversion in the earth's atmosphere of gamma-ray energy to radio frequency energy that propagates toward the earth surface. Space systems are especially vulnerable to EMP, as are most, if not all, electronic systems, ranging from televisions to mainframe computers, from telephone systems to aircraft and satellites. See the discussion of HEMP in Kenneth F. McKenzie, Jr., *The Revenge of the Melians: Asymmetric Threats and the Next QDR* McNair Paper 62 (Washington: Institute for National Security Studies, 2000), pp. 34–39.

79 Peter Slevin and Karen De Young, "North Korea Reveals Nuclear Program," *The Washington Post*, 17 October 2002, p. A1.

build, even for moderately industrialized states. The creation of a first-generation atomic capability is a long way from successful weaponization. This process implies miniaturization, command and control capabilities and effective means of delivery.[80] Based on these factors, it seems reasonable to assume that the number of states that possess indigenously developed, reliably deliverable nuclear weapons will remain small for the next decade and perhaps even longer. Beyond ten to fifteen years, however, the state of affairs might be very different. There is a strong possibility that the number of states with access to nuclear weapons or fissile material will increase. Moreover, states may accelerate the acquisition of nuclear capability by obtaining weapons or getting hold of fissile material from external sources. As the US Congressional Office of Technology Assessment concluded in 1993:

> More states in the business of making nuclear, chemical, or biological weapons could also mean more potential suppliers of means of production or actual weapons to still other parties – perhaps states, perhaps terrorist groups. Even if proliferant states did not intentionally transfer these goods, they might become targets for illicit foreign purchasers and smugglers.[81]

In short, within the next two decades, the world may see new nuclear states and confront the possible re-emergence of a nuclear arms race and renewed emphasis on nuclear deterrence.

40.   The third development arising from continued US superiority is the prospect that adaptive adversaries will increasingly use asymmetric methods and approaches to offset America's advantages. There is an enormous amount of confusion in the usage of the terms "asymmetric threats" and "asymmetric warfare". At times, these have been used in place of and interchangeably with the term "terrorism". But terrorism is really one element, albeit perhaps the most dangerous one at the moment, in a broader array of threats that can be considered asymmetric. A useful conceptual framework for understanding asymmetric threats and warfare has been provided by Steven Metz and

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80 On the cost and difficulty of acquiring indigenously produced nuclear weapons, see US Congress, Office of Technology Assessment (OTA), *Proliferation of Weapons of Mass Destruction. Assessing the Risks.* OTA-ISC-559 (Washington: US Government Printing Office, 1993), pp. 9–11; and Thomas J. Badey, "Nuclear Terrorism: Actor-based Threat Assessment," *Intelligence and National Security* 16, 2 (Summer 2001), 39–45.

81 OTA, *Proliferation of Weapons of Mass Destruction*, p. 71. On nuclear smuggling see, Rensselaer Lee, "Nuclear Smuggling: Patterns and Responses," *Parameters* 33, 1 (Spring 2003), 95–111. See also the nuclear trafficking database on the website of the Center for Nonproliferation Studies, Monterey Institute of International Studies. Lee provides an even-handed treatment of the prospects of nuclear proliferation and the spread of weapons to state and non-state actors. Bobbitt offers a more pessimistic assessment of the direction of nuclear proliferation in the future: "The active international trade in weapons delivery systems and even fissile material will experience the same heady change in the scope of its markets, the speed of its transactions, and the astounding return on investment that the international market has provided other commodities, especially illicit ones. At some point, it will simply be impossible to keep up with the nuclear weapons trade, which is at once lucrative and easily concealed." Bobbitt, *The Shield of Achilles*, p. 690.

Douglas Johnson. They identify six forms of asymmetry relevant to issues of national security and warfare. The six asymmetries are: method; technology, will; morale; organization; and patience or time perspective.[82] Asymmetry of method entails using different operational concepts and tactical doctrines than an adversary. Technological asymmetry has been a common feature of warfare because combatants often fight adversaries who are more technologically advanced or less so than themselves. Asymmetries of will exist when "one antagonist sees its survival or vital interests at stake, and the other is protecting or promoting less-than-vital interests." Related to the element of will, there can also be an asymmetry of morale. Both will and morale, as Metz and Douglas point out, are "closely related to normative asymmetries which come into play when a conflict involves antagonists with different ethical or legal standards." In the past, organizational asymmetry has been an important feature of success in conflict, often favouring those who evolve innovative structures that create tactical or operational advantages. Organizational asymmetry will likewise be a significant factor in the future, as "state militaries may face nonstate enemies organized as networks rather than hierarchies". Different level of patience or time perspective also creates asymmetry. According to Metz and Johnson, "an asymmetry of time perspective may occur when one antagonist enters a war willing to see it continue for a long period of time, while their opponent is only able to sustain their will for a short war."

41.   While the United States retains great asymmetric advantages over potential adversaries, especially in the areas of military capabilities, technological acumen and wealth, it remains vulnerable to several forms of negative asymmetry. Weaker states or non-state actors that wish to challenge the United States or regard it as an obstacle to some policy or ideological objective must avoid direct confrontations with US forces and look for ways to target American weaknesses. To put it another way, these adversaries must attack US vulnerabilities. Most of these vulnerabilities involve what might be considered the soft underbelly of US strength: its civilian infrastructure or, more broadly, its society. The US Government, in fact, divides critical infrastructure protection into two categories: critical infrastructures and key assets.[83] In the first category are the following: agriculture and food; water; public health; emergency services; defence industrial base; telecommunications; energy; transportation; banking and finance; chemical industry and hazardous materials; and postal and shipping. The key assets include: national monuments and icons; nuclear power plants; dams; government facilities; commercial

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82 Steven Metz and Douglas V. Johnson II, *Asymmetry and U.S. Military Strategy: Definition, Background, and Strategic Concepts* (Carlisle, PA: Strategic Studies Institute, 2001), pp. 9–12.

83 *The National Strategy for the Physical Protection of Critical Infrastructures and Key Assets* (Washington: The White House, 2003), available at: http://www.dhs.gov/interweb/assetlibrary/Physical_Strategy.pdf.

key assets.[84] Most of these critical infrastructures and key assets are integrated functionally and geographically into a wider system. This integration can create systemic vulnerability.[85] An adversary does not have to target the complete system but only critical parts of it to have far-reaching effects.[86] There may be disagreement on whether the system is genuinely susceptible to widespread or catastrophic failure. But few experts today question the potential risk of asymmetric threats to the US homeland.

The Terrorist Threat

42.	The likelihood and scale of the menace posed by asymmetric threats to the US homeland became fully evident on 11 September 2001 with the terrorist attacks on the World Trade Center and the Pentagon. On that day, a network of terrorists employed a novel tactical approach through their use of commercial jet airliners, causing enormous destruction to American property and the deaths of many people.[87] Not only did the US sense of invulnerability from terrorist threats crumble that day in a horrendous mixture of fire, dust and debris, but so too did the once generally accepted aphorism of Brian Jenkins that terrorist do not want a lot of people dead, but rather a lot watching.[88] The realization that terrorist organizations such as Al Qaeda not only had the ability but also the willingness to cause a level of death and destruction that once had been associated exclusively with the abilities of nation states led to the most ambitious reorganization of America's national security architecture since the 1947–1948 reforms. It also brought with it a major reorientation of US national security strategy. Underlying the reorganization of US national security and a reorientation of its strategy is a mounting fear about the potential nexus between international terrorism and WMD proliferation. The possible nexus of terrorism and nuclear weapons lies at the heart of what many Americans fear about the worst possible threat they may confront in the future. As the 2002 national security strategy put it,

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84 The US government defines commercial key assets as "commercial centers, office buildings, sports stadiums, theme parks, and other sites where large numbers of people congregate to pursue business activities, conduct personal commercial transactions, or enjoy recreational pastimes." *The National Strategy for the Physical Protection of Critical Infrastructures and Key Assets*, p. 78.

85 Montgomery C. Meigs, "Unorthodox Thoughts about Asymmetric Warfare," *Parameters* 33, 2 (Summer 2003), 4–18; see especially, his discussion of the Northeast blackout of 9 November 1965 on page 9.

86 Metz and Johnson, *Asymmetry and U.S. Military Strategy*, p. 12. On the potential vulnerabilities arising from the complexity of modern society, see Thomas Homer-Dixon, "The Rise of Complex Terrorism," *Foreign Policy* (January/February 2002), 52–62.

87 The terrorist network represents a form of organizational asymmetry while the novel use of airliners as weapons can be considered an asymmetry of method. A similar argument has been put forth by retired US General Montgomery C. Meigs, who claims that, "al Qaeda used asymmetric means to cleverly develop idiosyncratic attacks on its targets, thus changing our operational and strategic environment." Meigs, "Unorthodox Thoughts about Asymmetric Warfare", p. 5.

88 Brian M. Jenkins, "Will Terrorists Go Nuclear?" *Orbis* 29, 3 (Autumn 1985), 507–516.

The gravest danger our Nation faces lies at the crossroads of radicalism and technology. Our enemies have openly declared that they are seeking weapons of mass destruction, and evidence indicates that they are doing so with determination. The United States will not allow these efforts to succeed.[89]

43. The obstacles facing terrorists, including Al Qaeda, in constructing their own nuclear weapons or acquiring them by other means should not be underestimated.[90] As one expert argues, the prospect of terrorists maintaining facilities for enrichment or reprocessing of fissile material "is probably out of the question."[91] Instead, terrorists will likely focus on purchasing or stealing weapons grade or other radiological materials. Even if they could obtain the material from some external supplier, either through illicit trade or theft, terrorists would still find it difficult (though not impossible) to attain or hire the technical expertise to build a nuclear weapon. For this reason, it seems more probable that terrorists, provided they could get hold of nuclear materials, would assemble a radiological device that combines a radioactive substance with conventional explosives. The destructive effects of such a device would be much less than a nuclear bomb but it would still have the potential to kill people and cause great disruption, especially if it exploded in a busy urban environment.[92] Terrorists might, in addition, seek to damage nuclear power plants in a target country with the goal of releasing radioactive material into the atmosphere.[93]

44. Nevertheless, assessing the risk of nuclear terrorism remains difficult. Experts tend to disagree on the level of risk based on their specific assessment of probability versus consequences. Terrorist experts, for instance, often discount the prospects of nuclear terrorism based on past studies of terrorist behaviour. Using a risk management approach, many international security scholars and policy-makers are more inclined to

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89 President's Foreword, *The National Security Strategy of the United States of America*, p.2.

90 For a good discussion of the three schools of thought on the likelihood of nuclear terrorism, see Richard A. Falkenrath, "Problems of Preparedness. US Readiness for a Domestic Terrorist Attack," *International Security* 25, 4 (Spring 2001), 147–86.

91 Lee, "Nuclear Smuggling, p. 99.

92 Sometimes referred to as an area denial weapon, the concept of rendering an area inhospitable has a long history. Following the defeat of the Carthaginians in the Third Punic War, the Roman army allegedly plowed the land of Carthage over and salted it. By salting it, the Romans "guaranteed that no Carthage could rise up from the ruins of the old. There is debate as to whether the Romans did indeed salt the earth. The first reference to "salting" the earth at Carthage was made by mediaevalist Gregorovius when he compared Rome's actions with those of Boniface VIII at Palestrina." See the "Third Punic War" at http://www.dl.ket.org/latin2/historia/republic/punic4.htm.

93 For a discussion of the technological difficulties terrorists would have to overcome in building a nuclear bomb, see J. Carson Mark, Theodore Taylor *et al*., "Can Terrorists Build Nuclear Weapons?" available on the website of the Nuclear Control Institute in Washington at http://www.nci.org/k-m/makeab.htm. A debate exists on the vulnerability of nuclear power plants. See, for instance, Douglas M. Chapin, Karl P. Cohen, W. Kenneth Davis, *et. al*. "Nuclear Power Plants and Their Fuel as Terrorist Targets," *Science* 297 (20 Sept. 2002), 1997–1999, and the response by Dr. Edwin S. Lyman, "Statement on the *Science* article 'Nuclear Power Plants and Their Fuel as Terrorist Targets'" available at http://www.nci.org.

fear the catastrophic consequences of such an attack.[94] The probability of nuclear attack by terrorists may seem low at present, the latter group argue, but over time it will become increasing probable. As Richard Falkenrath observes,

> Terrorists' methods appear to evolve with changes in weapons technology, the counterterrorist policies of individual states, and the international system. Shortly after the stabilization of chemical explosives as dynamite in 1867, for example, bombs replaced handguns as the weapon of choice for anarchists and other nineteenth-century terrorists.[95]

In other words, the opportunities for terrorists to obtain nuclear materials will increase as nuclear weapons become more widespread and, at least in theory, more accessible.[96]

45.   Concerns about modern society's vulnerabilities and the catastrophic potential of a terrorist nuclear attack have created what might be called a convergence of fear. In turn, this fear has led to demands for greater homeland security. The United States is clearly moving ahead with plans to augment the security of the homeland, including such areas as enhancing law enforcement and domestic security procedures and practices. But it seems unlikely that the United States will attempt to defeat terrorist threats through homeland security measures alone. US policy-makers will continue to strengthen homeland security but they will also pursue an aggressive campaign of eliminating terrorist bases of operations abroad. The US approach to the terrorist threats to the homeland must not be seen in isolation but rather as part of a wider, continually shifting campaign. Anthony Cordesman has aptly described this dynamic as "squeezing the

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[94] See the excellent discussion of the different threat assessments based on divergent methodological threat analyses in Richard A. Falkenrath, "Analytic Models and Policy Prescription: Understanding Recent Innovations in U.S. Counterterrorism," BCSIA Discussion Paper 2000-31, John F. Kennedy School of Government, Harvard University, October 2000.

[95] Falkenrath, "Problems of Preparedness", p. 150.

[96] Based on this rationale, counter-proliferation, aimed at both "rogue states" and non-state actors, has become a top US security concern today and will remain so for many years to come. American policy-makers will likely pursue a multi-tracked approach to counter-proliferation, which will include three broad lines of advance. First, they will continue and possibly accelerate multilateral efforts to create a global coalition that shares intelligence and information in the hope of forestalling terrorist attacks using nuclear weapons. Second, the US will continue to rely on the threat of nuclear retaliation to deter any potential nuclear (rogue) state aggressors. To extend deterrence, the US will also pursue a program of global missile defence, which seeks to dissuade "rogue states" from acquiring nuclear weapons by denying them the extortion value of nuclear threats. Third, there will be an increasing emphasis on pre-emption in US strategy, though it is unlikely that it will become the sole or guiding principle in the US approach to global affairs. Behind the logic of pre-emption is the belief that not all threats can be deterred using conventional methods or means. To put it colloquially, the issue has become one of whether a group or person can be deterred if that group or that individual does not have a return address? In other words, in the absence of a specific state attachment, would non-state actors necessarily be deterred by the threat of nuclear retaliation? It is this dynamic that has led to the increasing importance of pre-emption in the US national security strategy. See the insightful analysis of nuclear proliferation and US counter-proliferation strategy in Bobbitt, *The Shield of Achilles*, pp. 679–91. On the need to rethink traditional conceptions of nuclear deterrence because of the unique demands of dealing with "rogue states" and non-state actors, see Keith B. Payne, *The Fallacies of Cold War Deterrence and a New Direction* (Kentucky: University Press of Kentucky, 2001). Payne places greater emphasis on defences, such as missile defences, and also on denial or pre-emption options.

balloon"; squeeze one area and another expands.[97] Defending in one area while failing in the others pushes attackers to attack the less defended areas. Sophisticated attackers may respond to defensive measures by either shifting their methods of attack to strike at the least defended areas or developing countermeasures to exploit the weaknesses in any defence. One could argue that this is the *sine qua non* of Al Qaeda's strategy. Indeed, the United States will likely continue to follow a strategy that balances between the need to defend the homeland and the requirement to engage potential adversaries overseas, disrupting their plans and bases of operations before they can strike targets in North America.

Conclusion

46.   One of the great challenges confronting Canada in the years ahead will be defining an appropriate strategy that can deal with the inevitable shifts in US strategic focus as it responds to the evolving war on terrorism. As the importance of homeland security rises in response to the perception of threat, this will likely be accompanied by increased American emphasis on continental security cooperation. As the focus shifts to distant lands that offer sanctuary to terrorists, either tacitly or because they are unable to exert control over their territories, the United States will seek allies who are prepared to join them in eliminating these bases of operations. Terrorist and transnational criminals will likely continue to exploit the lawlessness of failed or collapsing states.   In the future, Canadians may find that they will be frequently asked to intervene in the failing regions of the developing world where terrorists and criminals cohabitate and increasingly cooperate.

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97 Anthony H. Cordesman, *Overview: Defending America. Redefining the Conceptual Borders of Homeland Defence* (12 December 2000). Cordesman's Report is available on the website of the Center for Strategic and International Studies at http://www.csis.org/homeland/reports/overprininvestnmd.pdf

V - Emerging Threats to Stability

Introduction

47.   There is an important distinction between social, environmental and economic problems that cause instability in the international system and palpable security threats such as terrorism that explicitly imperil a state's well-being and safety. While the latter represents much more of a direct menace to a state's vital interests, it is important to understand that destabilizing developments have the potential to become security threats, especially if they do not receive adequate attention by the international community. The magnitude of some of the social, environmental and economic problems currently afflicting large parts of the developing world suggest that there is a strong possibility that they will not only cause much instability in the future but may, in fact, generate security threats to Canada and its allies. Environmental degradation, regional demographic shifts, resource depletion, pandemic disease and water scarcity will act singularly or in combinations to destabilize the security environment for the next two decades and likely beyond. They may even lead to serious conflict. In some parts of the world, recurring pressures may result in the breakdown of social order, the collapse of governments and, possibly, an increase in terrorism.[98] They may trigger mass-migrations of displaced populations.[99] At its extreme end, these migrations might produce interstate hostilities as neighbouring states seek to maintain internal security by preventing the flow of refugees across their borders. At the very least, it will likely increase the call for humanitarian intervention.

48.   As noted in an earlier chapter, one of the most important trends to emerge in recent years has been the rise of non-state actors and the threat they pose to state sovereignty. In the past, when considering external security threats, states were primarily concerned with other sovereign nations. Sovereign states held the monopoly on the right and capacity to apply force. Military acts against other states could be met in kind because each had a geographical footprint against which retaliation could occur. This factor was a key consideration for states when deciding whether to engage in hostilities against other states. Hence, the decision to launch aggression required a high degree of national interest or a reliable assessment of significant military superiority for its justification since the risks were very high. For sovereign states, this risk factor still exists. However, this potential restraint on the use of force does not apply to non-state

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98 Michael Klare, "The New Geography of Conflict," *Foreign Affairs* 80, 3 (May/June 2001), 49–61.

99 National Intelligence Council (United States Central Intelligence Agency), *Global Trends 2015: A Dialogue about the Future with Non-government Experts NIC 2000-02* (December 2000), p. 16 (from Internet downloaded version).

adversaries since they generally have no geographical liabilities or vulnerabilities. They do have camps, which are vulnerable. Nevertheless, their existence is not tied to the survival of any particular camp, which by and large negates geographical liability. Moreover, non-state actors can target the geographical vulnerability of the states against which they have grievances, as was the case with the 11 September attacks on the United States.

49.   This chapter explores these issues, highlighting their potential to intensify global instability in coming decades. There is strong possibility that the number of failed and failing states may increase. In many instances, this will necessitate a response in order to reduce or eliminate the adverse effects of failed states and the threat they pose to regional and global stability. At times, the situation may even require the use of armed force. It is likely that the Canadian government will be called upon to deploy the CF more frequently in coming decades in response to these emerging threats to stability. Most of these situations will require a multi-agency approach, making use of all the resources of the state, including defence, development aid and diplomacy.

Demographic Trends

50.   Several demographic trends may place enormous burdens on global stability in the coming decades. While debate exists about the precise impact of current and projected birth and mortality rates, there appears to be a degree of consensus about the potential for a number of deleterious effects on various regions of the globe. The problems arising from demographic trends among developed nations differ substantially from those of the developing world.[100] Specifically, current birth rates in much of the industrialized world are at, or below, the replacement rate of 2.1 children per woman. In addition, the "baby-boomers" are approaching retirement age contributing to declines in workforce and economic productivity while placing greater pressure on social security and health care programs. There are, of course, local variations to these trends and one must be cautious about generalizing about the possible effects of demographic trends in the developed world.

51.   In the developing world, there are also conflicting trends. Some regions share the problems of the developing world, facing the prospect of an aging population. It is estimated that in parts of the developing world the population over sixty-five years of age

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100 Nicholas Eberstadt, "The Population Implosion," *Foreign Policy* (March/April 2001), 42–53, John Ibbitson, "The Lonely Planet – Depopulation," *The Globe and Mail*, Saturday, 2 March 2002, p. F1 and Thomas Homer-Dixon, "Population Growth," *The Globe and Mail*, Saturday, 9 March 2002, p. A17.

will outnumber that under five years of age by 2020. In other words, there will be more dependant citizens in these nations than workers in the workforce to support them.[101] Under these circumstances, creating conditions for sustained economic growth may prove challenging or impossible. Other regions of the developing world, particularly parts of the Middle East and Africa, will confront continued population growth. In countries challenged to deliver basic services and to offer employment opportunities to existing populations this trend may lead to unrest and a growing sense of inequality and frustration. The growing ranks of youth, in particular, may conclude that few employment prospects exit and turn their anger towards their own society or those perceived to be the cause of their bleak future. This, in turn, may lead to mass-migration, famine or even trigger civil conflict.[102]

52.   Although the birth rate in Canada has fallen below replacement level, the population continues to grow due to the influx of immigrants. This presents its own set of demographic challenges, particularly from a CF perspective. There may be serious obstacles impeding the recruitment of personnel in the future. Indeed, the CF will likely have to attract an increasing number of recruits from Canada's growing ethnically diverse population to generate and sustain a viable-sized force.[103] There is also the potential that Canadian perceptions of the world and the interests arising from these will change due to the influence of emerging ethnic groups. In particular, the possibility exists that areas of the world that have traditionally received little attention in terms of the focus of foreign and defence interest may increase in importance in response to the growing representation of ethnic communities within Canada.

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101 Susan Raymond, "Foreign Assistance in an Aging World," *Foreign Affairs* 82, 2 (March/April 2003), 91–95.

102 Nicholas Eberstadt, "The Population Implosion," *Foreign Policy* (March/April 2001), 42–53, John Ibbitson, "The Lonely Planet – Depopulation," *The Globe and Mail*, Saturday, 2 March 2002, p. F1 and Thomas Homer-Dixon, "Population Growth," *The Globe and Mail*, Saturday, 9 March, 2002, p. A17.

103 The department has already been confronting the challenges of Canada's changing demographic profile. Indeed, the pace of change is accelerating. Within fifty years, if current trends persist, Canada will have a very different face. See the discussion of the implications of demographic and social trends on CF Recruitment in Brian Mckee, *Canadian Demographic and Social Trends*. D Strat HR Research Note 08/02 (January 2003).

Figure 1. Long Term World Population Growth, 1750 to 2050
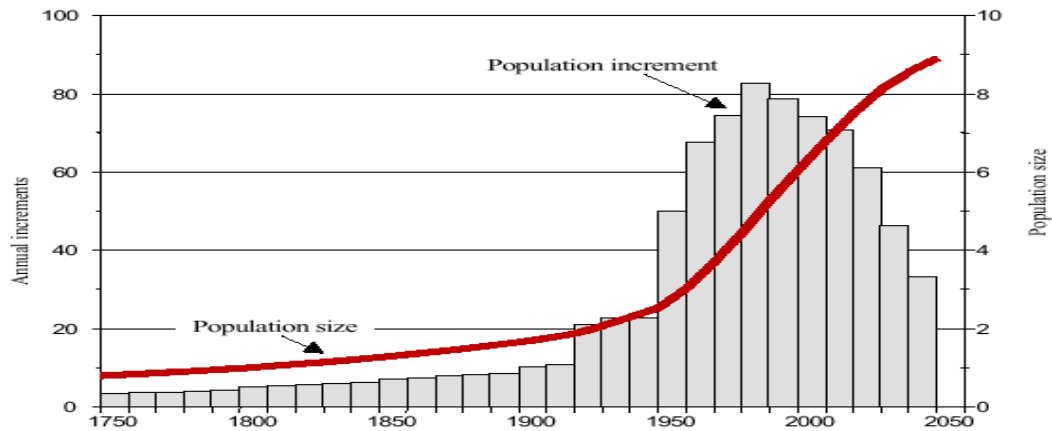
Source: United Nations Population Division.

Medium Variant (1998 Revision of the official United Nations estimates and projections). From the UN publication "The World at Six Billion," available at: **www.un.org/esa/population/publications/sixbillion/sixbilpart1.pdf**.[104]

Resource Conflict

53.   As Figure 1 indicates, the global population will continue to grow over the next two decades and beyond regardless of regional variations. A significant impact of this trend will be increasing demand for vital resources. Consumption, even in poverty stricken areas, must increase with population. The dynamic of increasing consumption and dwindling resources will generate crises within and between states. While resource conflict has been a recurring theme throughout history, it is likely to become more prevalent in future decades. Assured or even open access to oil and fresh water resources will, in particular, be a major concern to many states in the future security environment.[105]

104 As the United Nations Population Division points out "by 2050 the world is expected to have 8.9 billion people, an increase of nearly half over the 2000 population. By 2050, the share of Asia will be at nearly 60 per cent, that of Africa will have more than doubled, to 20 per cent, and that of Latin America nearly doubled, to 9 per cent. Meanwhile the share of Europe will decline to 7 per cent, less than one third its peak level achieved at the beginning of the twentieth century. While in 1900 the population of Europe was three times that of Africa, in 2050 the population of Africa will be nearly three times that of Europe." Box 2. World Population Growth in "The World at Six Billion."
105 Klare, *Resource Wars: The New Landscape of Global Conflict*. (New York: Metropolitan Books, 2001), pp. 210–223 and Sandra L. Postel and Aaron T. Wolf, "Dehydrating Conflict," *Foreign Policy* (Sept/Oct 2001), 60–67.

54.   Increasing oil consumption in an era of dwindling reserves may lead to a significant reordering of areas of strategic interest throughout the world. Some areas such as the Middle East, already vital because of oil reserves, will not only remain strategically important but may, in fact, become more so as demand increases. Other areas, including parts of Africa, the Caspian region, the South China Seas and numerous equatorial areas of resource concentration, will likely increase in strategic importance.[106] In the Western hemisphere, Canada and Venezuela have the potential to become even more strategically vital to the United States because of their oil reserves.[107] Strategic refocusing is already occurring in some cases. Take, for example, the recent decision on the part of the US administration to provide funding to the Colombian military to protect the 480-mile Cano-Limon oil pipeline. This is a dramatic departure from earlier American policy that provided military support primarily in aid of the anti-drug campaign.[108] American interest in African oil resources has likewise expanded. Prior to the 11 September attacks, US interest in African oil had been increasing moderately due to the prospect of growing oil production in the region. In the wake of these attacks, the United States has intensified its interest in the region. A recent estimate suggests that African oil states may replace Middle Eastern ones as the critical suppliers to the United States by 2010.[109]

55.   In theory, a potential breakthrough in the development and production of an alternate source of energy to fossil fuels could in upcoming decades dramatically diminish the strategic importance of the oil and gas producing regions. Innovations in fuel cell technology may reduce oil consumption.[110] But is unlikely that in the near future that the fuel cells will substantially alter global oil consumption.[111]   Should a viable alternate fuel source be developed, marginalizing oil in the process, the global strategic landscape would undergo a marked change. Oil rich areas would diminish in strategic

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106 Klare, *Resource Wars: The New Landscape of Global Conflict*, pp. 210–223.

107 Manik Talwani, "Canada: The next oil superpower?" *National Post* Friday, 15 August 2003, p. A10. Both Canada and Venezuela have enormous "heavy oil" reserves but the cost of extraction makes them less attractive than other ("light oil") sources. Technological advances continue to reduce the extraction costs. In comparison to other oil exporting countries, Canada's political and economic stability certainly enhances its attractiveness as a dependable source of oil for the US. As demand increases, Canada may become a more important supplier to the US, which in turn may lead to rising US investment in Canada's oil and gas sector.

108 Andrew Selsky, "U.S. Officials Unveil Colombia Plans," *Associated Press*, 6 February 2002.

109 John Stremlau, "Ending Africa's Wars," *Foreign Affairs* 79, 4 (July/August 2000), 121–122.

110 Fuel cells are devices that use hydrogen (or hydrogen-rich fuel) and oxygen to create electricity by an electrochemical process. When pure hydrogen is used as a fuel, fuel cells emit only heat and water as a byproduct. Several fuel cell types are under development, and they have a variety of potential applications. Fuel cells are being developed to power passenger vehicles, commercial buildings, homes, and even small devices such as laptop computers. See the discussion of fuel cell technology at the US Department of Energy Website at:

111http://www.eere.energy.gov/hydrogenandfuelcells/fuelcells .

  Amy Myers Jaffe and Robert A. Manning, "The Shocks of a World of Cheap Oil," *Foreign Affairs* 79, 1 (January/February 2000), p. 20.

importance unless there were other compelling reasons to maintain interest there. Moreover, many of these states would suffer significant economic turmoil because their prosperity depends almost exclusively on the petroleum industry. Already some of these countries are incubators of extremist sentiments. If their economies sustained significant economic losses, then the level of instability and violence would likely grow.

56.   In many regions of the world valuable resources fund civil wars and contribute to the prolongation of conflicts. A quick scan of the global conflict areas provides ample evidence of this dynamic. Fighting in places such as the Democratic Republic of the Congo, Burundi, Ivory Coast, Papua New Guinea, Indonesia, Angola, Mozambique, Columbia and numerous other locations is or has been funded by valuable resources such as diamonds, timber, oil or illegal drugs. Often these resources permit the fighting to continue far longer than otherwise would have been the case. As non-renewable resources become scarce their values will rise, which in turn provides a strong stimulus to continue the conflict and possibly to expand it. Hence, it is likely that resource-rich areas that have weak governments and economies will have a greater potential for conflict in the coming decades.[112]

57.   Water is another vital resource likely to cause or contribute to conflict in coming decades. There are several reasons why water resources will become increasingly scarce in the not too distant future. Among these are climate change, environmental degradation and over-consumption. Over-consumption has many causes, one of which is poverty. For example, agricultural activities in poor countries are often conducted using outdated water-intensive methods that tend to require less capital. Given the complex nature of eco-systems it is difficult to isolate any one cause. Water scarcity, environmental degradation and poverty often form a vicious spiral, leading to further scarcity, degradation and impoverishment.[113] Moreover, this situation is compounded by the difficulty concerned groups experience in cajoling governments to act in a timely fashion. As the recently released UN report on fresh water indicates, indifferent behaviour lies at the root of the water crisis since numerous studies have revealed most of the problems and the solutions but no effective action has been taken. This problem has been most pronounced in regions where the population is not capable of overcoming this challenge without external assistance.[114]

112 Paul Collier, "The Market for Civil War," *Foreign Policy* 136 (May/June 2003), 40–45, Jeremy Scott-Joynt "How Oil Damages Development," *BBC News*. Taken from http://news.bbc.co.uk/2/hi/ business/3020185.stm 12 May 2003.
113 Domenico Luciani, "Des mythes à la réalité," *Manière de voir 65*, September-October 2002, p. 26.
114 *Water for People, Water for Life The United Nations World Water Development Report*, 6 March 2003, p.4.

58.   In the absence of corrective action, the world's water supply will be such that by 2030 nearly 2 billion people will have less than the 50 litres per person per day considered essential for survival.[115] If current trends continue, the UN estimates that by 2050, "at worst 7 billion people in sixty countries will be water-scarce, at best 2 billion people in forty-eight countries."[116] Insufficient supply of water results in many second-order effects beyond the impact of massive dehydration and other detrimental health effects. These include agricultural shortfalls, transportation problems and reduced hydroelectric/industrial output. In turn, this contributes to economic stagnation, which may lead to protest and possibly revolt. In the absence of effective solutions or the willingness to overcome these challenges, environmental degradation, mass-migrations and even conflicts over water resources are likely to increase in future years.

59.   Water scarcity and/or pollution in various regions of the world are reaching crisis levels at a time when larger populations and industrial capacity has increased demand. This is particularly true for several major water systems including the Tigris-Euphrates basin,[117] the Nile, La Plata, Lempa, Orange, Incomati, Limpopo, Okavango, Zambazi, Kunene, Lake Chad, the Senegal basin, the Jordan system, Kura-Araks, Ob, the Aral Sea, the Ganges-Brahmaputra-Meghna, Mekong, Yellow River, Han and Tumen basin.[118] Water conflicts exist not only between states but also within them in some regions – Spain and the Ebre River for example.[119] In effect, these basins and others are candidates for potential conflict due to water scarcity.

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115 Jean-Loup Motchane, "Cet élément si fragile," *Manière de voir 65* (September-October 2002), p. 9.
116 *Water for People,* p. 10.
117 Robert Kaplan, *The Coming Anarchy*, pp. 36–37.
118 Postel and Wolf, "Dehydrating Conflict", pp. 60–67.
119 Motchane, "Cet élément si fragile", p. 9.

Figure 2. Current water availability versus population

Percentages refer to share of total global fresh water sources and share of total world population. Taken from Website of the UNESCO/IHP Regional Office of Latin America and the Caribbean March 2003.

60.   As Figure 2 indicates, there are significant disparities throughout the globe in terms of population and the availability of fresh water. Asia (including the Middle East) and, to a lesser extent, Africa are areas of particular stress in this regard – the Asian continent supports more than half the world's population with only 36 percent of the world's water sources. If one takes into consideration the expanding populations in both areas over the coming decades, it is apparent that there will be increasing challenges to provide the water resources essential for life. Barring effective action to remedy this situation, conflict over water may become more prevalent. Current desalination efforts and ongoing research are beginning to show genuine progress. If the cost of desalination continues to fall as it has in recent years, then there may be hope that the water scarcity crisis of the twenty-first century can be avoided.[120]

120 Commonwealth Science Council, "Summary of the Discussion on Desalination," October – November 1999. Available at http://www.commonwealthknowledge.net/Desalntn/sumdsion.htm. Desalination requires large amounts of energy, which often presents developing nations with the difficult choice of water needs and energy costs. According to the World Nuclear Association, "world capacity is approaching 30 million m3/day of potable water, in some 12,500

Urbanization

61.   The UN estimates that by 2030 approximately 60% of the world's population will live in urban centres compared to the current level of 48%. Historically, urbanization has correlated to increased economic growth. However, this occurred in societies able to develop the social, political and legal institutions to manage the challenges of urbanization by implementing municipal programs such as effective waste and water management.   The problem for many developing countries is that urbanization is occurring at a far faster rate than it did for states that made the transition from rural to urban societies during the Industrial Age. This makes the timely development of municipal institutions and social support structures necessary for a reasonable quality of life extremely challenging. There are many instances in recent years when developing countries have been unable to manage effectively the rapid migration to urban areas.[121] There is very little margin for error for these states. In the developing world, generally weak governments and low incomes of urban dwellers have impeded the development of adequate systems to inure the population to the health, environmental and social effects of rapid urbanization.[122] This will further exacerbate the problems of water distribution, infrastructure development and provision of health, economic, and social services thereby creating disgruntled citizens who might express their rage through violence and insurrection.

62.   It is important also to consider the pre-urban social structures in many countries struggling with urbanization. Rural societies have traditionally been organized on the basis of the extended family units. Consequently, there has been little requirement for state intervention in personal medical or social crises as the family was often expected to look after its own members. However, urban migration has disrupted family support structures. Family members have generally been disconnected from each other and from the social safety net that the extended family system provided. This loss of support creates a new dependency on the state that often cannot be met.

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plants. Half of these are in the Middle East. The largest produces 454,000 m3/day. The major technologies in use are the multi-stage flash (MSF) distillation process using steam, and reverse osmosis (RO) driven by electric pumps. A minority of plants use multi-effect distillation (MED) or vapour compression (VC). MSF-RO hybrid plants exploit the best features of each technology for different quality products (MSF gives purer water than RO)." More and more nations are looking at ways of combining desalination efforts and power generation, including the use of nuclear power plants. See World Nuclear Association, "Desalination," (April 2003) available at http://www.world-nuclear.org/info/inf71.htm.

121 Vernon Henderson, "Urbanization in Developing Countries," *The World Bank Observer* 17, 1 (Spring 2002), 89–90.

122 *Water for People,* pp. 15–16.

63.   Inadequate sanitation and increased population density, the by-products of rapid urbanization, have the potential to create enormous health problems for the developing world. Overcrowded Third World cities, unable to depend on modern medical services, will be especially susceptible to outbreaks of pandemic disease. In addition, dietary change and the adoption of a more sedentary lifestyle are dramatically increasing the rate of diabetes in the developing world. The World Health Organization (WHO) estimates that "the incidence of diabetes in the developing world will increase by 170 percent by 2025." Approximately 30% of city dwellers in India will be afflicted with diabetes by 2025 for example.[123] To manage health care problems exacerbated by urbanization, states will need to spend more resources on health care or accept the consequences of decreased work force and increased mortality rates. The inability to respond to these pressures may lead to greater dissatisfaction with governments and possibly civil disorder.

Climate Change

64.   There is little doubt that the world is experiencing significant climatic changes. The impact of these changes will be felt in all aspects of human activities, influencing the welfare and economic well being of all countries in the coming decades. In terms of water scarcity, estimates indicate that approximately 20% of the increase in water scarcity globally is caused by global warming. The climatic changes are also associated with a trend towards increasing incidences of extreme weather conditions such as floods, droughts, typhoons and cyclones.[124] The financial cost of extreme weather can be in the billions of dollars. Should violent storms increase in frequency then the costs may begin to erode global economic prosperity.

65.   Care must be taken to avoid overstating the impact of environmental disasters and climatic change on the security environment. While the occurrence of natural disasters and the damage they cause aquifers and agricultural zones can be devastating for those immediately affected, their ability to undermine the security of a state varies depending on the severity of the event and the existing capacity of the country to deal with the damage caused. Thus, environmental disasters have the potential to further overwhelm a state lacking the social, legal and economic infrastructure to manage its affairs. In such cases, environmental disasters can exacerbate the existing tensions within a state and lead to civil strife as demands for relief go unanswered by the state. A current example of the destabilizing impact of natural disasters is the ongoing crisis in East Africa. Following years of devastating drought, torrential rains causing floods and the destruction of vital

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123 Raymond, p. 97.
124 *Water for People*, p. 10.

infrastructure have recently inundated the region. This has created refugee flows in Ethiopia, Somalia and Kenya.[125] All of these countries already face challenges to provide basic social and health care services; environmental disaster compounds their predicament.

66.   In Canada, too, extreme weather has had a significant impact, including the deployment of large numbers of CF personnel. The CF has deployed its men and women in recent years in relief of environmental disasters from the Ice Storms in eastern Canada to the floods in Manitoba and the Saguenay. If climate trends continue and extreme weather conditions intensify, then one may expect in the future growing demands for the employment of military forces in humanitarian assistance roles.

67.   One of the most important climate trends affecting the future security environment stems from rising sea levels across the globe and the melting arctic ice cap. Rising sea levels affect the navigable portions of water. As a result, some adjustments might be expected to the Economic Exclusions Zones (EEZs) of littoral states. Threatening coastal settlements, rising sea levels also have the potential to displace millions of people throughout the world. Economies, ecosystems and substantial amounts of critical infrastructure may be at risk should sea levels rise. Merchant shipping lanes will also change due to this phenomenon. In the Canadian context, it is evident that in the coming decades the navigable period for transiting the Northwest Passage may substantially increase. It is even possible that it will eventually remain open year-round. There are important issues of international law stemming from this development outside the scope of this paper. From a security perspective, it will likely increase the need for surveillance, patrolling and search and rescue capabilities. These tasks may necessitate greater resource allocations. Whether these resources come at the expense of other areas of defence or assumed by other government departments or agencies is an issue that will require consideration in the near future.

Criminal Activity Detrimental to Stability

68.   In the section on globalization, the benefits exploited by TCOs were examined. In this section TCOs and other criminal elements will be examined to highlight the relationship between organized transnational criminal activities and the security of states. In states that possess effective governments and judiciaries, the main impact of illegal TCO activities is felt in the realm of the criminal justice system. However, some of these

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[125] "East Africa Floods 'May Worsen'," *BBC News* taken from http://news.bbc.co.uk/2/hi/africa/ 3009013.stm 8 May 2003.

activities can undermine the legally constituted government, breakdown the fabric of society, facilitate the activities of terrorist organizations and cause serious damage to the financial system. This is particularly the case when the state has weak or ineffective institutions. Under these circumstances, TCO activity can genuinely threaten the security of the state.

69.   Piracy is frequently carried out either through TCOs or by individual bands of pirates. Alarmingly, there were 103 reported cases of piracy world-wide in the first quarter of 2003, which represents the highest number of incidences for over a decade. Areas of particular concern include Indonesia, Bangladesh, India, Malaysia and Somalia. Most of the impact relates to commercial losses, but piracy can be detrimental to a state's security or vital interests. It is not uncommon to have oil tankers seized by pirates who then resell the cargo.[126] This can affect the oil supply in countries lacking viable alternative supplies such as Japan. In terms of increased defence activities there is a cost incurred to combat this criminal behaviour. That cost is the increased requirement for surveillance and patrolling of high-risk areas to safeguard the maritime routes upon which commercial shipping depends.

70.   Other criminal activities that have a clear security impact are counterfeiting and the smuggling of humans and illicit goods. The unhindered ability to move both people and prohibited cargo around the globe is essential to transnational terrorist organizations. To facilitate the movement of illegal cargo and smuggled people, they make use of both fraudulent identification and shipping documents.[127] This is a particular vulnerability for Canada given its significant coastline and the large amount of shipping containers processed through its major ports. Canadian authorities must be vigilant to deny terrorist organizations the use of ports of entry to move people and weapons into Canada. From this perspective, human smuggling and counterfeiting of documents are clearly criminal activities with a significant security dimension.

Pandemic Disease

71.   Infectious disease represents another area of growing global concern. Some argue that this is not a matter of security or, at best, it is a marginal security issue. Given the mortality rates and the potential spread of some diseases, however, global anxiety seems warranted. The stability of many states in the developing world may be undermined in

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126 "High Seas Piracy Hits Record Level," taken from the BBC News website, 1 May 2003.
127 Smith, "Transnational Terrorism", pp. 40–42.

coming decades as a result of disease. Recent developments may be an indication of the problems ahead. The spread of virulent diseases has been most gravely felt in developing nations. In the future, the inability to battle disease may contribute to state failure and thus lead to greater regional instability.

72.   Some analysts argue that factors relating to the economy or the healthcare system of a state are the most significant factors in the spread of disease. However, there is a body of research linking the spread of HIV/AIDS to civil wars in Africa. The frequent occurrences of rape and mass-migration as a result of conflict have been identified as key factors creating an HIV epidemic in Uganda in 1979.[128] While the disease appeared in Uganda prior to 1979, the civil war accelerated its spread, leading to a full-scale epidemic. This highlights the multifarious effects created by conflict, as many people die not only through fighting but also as a result of disease and malnutrition.

73.   The tragic proportions of disease in the developing world are staggering. According to the WHO Infectious Disease Report, released in 1999, over 13 million people die annually, 1500 per hour, from infectious diseases. The victims in the developing world have tended to be the younger segments of society, including children under five and working age adults, the latter group described by the WHO as "breadwinners and parents". As the Infectious Disease Report makes clear:

> In deprived inner-city areas children are less likely to be immunized against killer diseases and parents are less likely to be able to pay for health care when they get sick. Under these circumstances, diseases that were once under control can rapidly gain a foothold and re-establish themselves.[129]

Developing countries cannot afford the loss of these vital segments of their population, which seriously erodes long-term productivity. The diseases accounting for most of the mortality include pneumonia, tuberculosis (TB), diarrhoeal diseases, malaria, measles and HIV/AIDS. AIDS alone has created at least 8 million orphans, most of these in the developing world. TB was considered virtually eradicated, but now kills over 1.5 million people per year and could get far worse since nearly 2 billion people have latent TB infection.[130]

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128 Paul Collier, V.L. Elliott, Håvard Hegre, Anke Hoeffler etal., *Breaking the Conflict Trap – Civil War and Development Policy*. (Washington: World Bank and Oxford University Press, 2003), p. 47.
129 *WHO Report on Infectious Diseases* (1999). Taken from www.who.int/infectious-disease-report/pages/textonly.html.
130 *Ibid.*

74.   Pandemic disease can produce numerous adverse effects. First and foremost, one cannot ignore the manifest human tragedies alluded to above. But the spread of disease can have other harmful consequences. Outbreaks of disease can also weaken public confidence in governments and fuel existing or nascent unrest. Disease outbreaks may, in addition, overburden a state's economic resources. Expenditures incurred in fighting the spread of diseases and the loss of workforce productivity place severe strains on already impoverished states. Moreover, countries may suffer additional financial costs as a result of the loss of investment because overseas investors lose confidence in a country's ability to manage its affairs.[131] The recent Severe Acute Respiratory Syndrome (SARS) crisis in Canada, small in comparison to other pandemics, provides a useful example, nonetheless, of the rapidity with which outbreaks of disease can unfavourably affect economic activity.

75.   Finally, disease "can act as a catalyst for regional instability," insists Jennifer Brower and Peter Chalk. As they explain:

> Epidemics can severely undermine defense force capabilities (just as they distort civilian worker productivity). By galvanizing mass cross-border population flows and fostering economic problems, they can also help create the type of widespread volatility that can quickly translate into heightened tension both within and between states. This combination of military, demographic, and fiscal effects has already been created by the AIDS crisis in Africa.[132]

76.   In short, disease will likely destabilize many regions of the world in the years ahead. Even if aggressive programs are undertaken in the near term to defeat pandemic diseases, the impact will take generations to overcome in some regions, particularly in Sub-Saharan Africa and many parts of Asia that have been hard-hit by HIV/AIDS. Consequently, it is likely that the destructive nature of these diseases on particular societies and, in general, on regional stability will be significant factors affecting the security environment over the coming decades.

77.   The spread of these pandemics has security implications for Canada. From a military perspective, the CF might be at risk of exposure to these diseases during overseas deployments.   There is also a risk that virulent diseases could be introduced into Canadian society when infected CF personnel return to Canada from overseas deployment. This will necessitate the development of enhanced protection for deployed

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131 Jennifer Brower and Peter Chalk, *The Global Threat of New and Reemerging Infectious Disease: Reconciling U.S. National Security and Public Health Policy,*" RAND Report MR-1602-RC. 2003 accessed from http://rand.org/publications/MR/MR1602/.
132 *Ibid*., p. 9.

forces. Similar implications exist for personnel in other government departments who are deployed into high-risk environments. This speaks to the need for closer cooperation and coordination between government departments to ensure security of all Canadians.

Failed and Failing States

78.   Most of the factors highlighted above do not necessarily cause conflict in and of themselves. Combinations of these, however, may lead to state failure and to violent conflict. Among other things, failed states lack the ability to safeguard economic stability, provide access to water and promote general public welfare. Currently, World Bank statistics indicate that 1.2 billion people in the world live on less than $1 (US) a day and that 1.5 billion people lack access to clean water. Under these conditions, people may lose faith in their governments and abandon any sense of attachment to the state, creating a situation ripe for extremism and revolt.[133] There are many countries currently unable to provide for their populations and few of these have the potential to ameliorate the lives of their citizens in the near future. Economic development and infrastructure improvements take decades to achieve, particularly when the starting point is as low as it is in many underdeveloped nations.

79.   For these reasons, failed states have become a dominant security concern. A strong case can be made that they represent the primary source of international instability today and will probably continue to do so in the years ahead. Failed and failing states provide a potential refuge for transnational terrorists, TCOs, pirates as well as drug and human smugglers. They are breeding grounds for refugee crises, political and religious extremism, environmental degradation and organized criminal activities. Afghanistan under the Taliban regime is a recent example of how non-state actors can use a failed state to carry out a campaign against a state adversary with global consequences for the rest of the international community. A similar situation could arise in the future.[134] Thus, even if a failed state has little significance in the traditional sense of strategic resources or geographical position, it will take on greater strategic importance in the future by virtue of the potential base it offers to powerful non-state actors.[135]

80.   Failed states not only represent potential havens for non-state actors, they may also generate intrastate and interstate conflicts. In the coming decades, it is likely that

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133 Amory B. Lovins, "How to Get Real Security," *Whole Earth* 109 (Fall 2002), p. 9.
134 Jeffery Record, "Collapsed Countries, Casualty Dread, and the New American Way of War," *Parameters* (Summer 2002), 5–7. Stephen J. Blank, "The Future of Transcaspian Security," *Strategic Studies Institute Paper* (August 2002), pp. 18–19.
135 Paul Smith, "Transnational Terrorism", p. 38.

failed and failing states will not only trigger civil wars but will also give rise to hostility between states as the repercussions of a state's failure spread beyond its borders. To be sure, not all failed states will become sources for intrastate or regional interstate conflicts. Impoverished countries with faltering economies and a heavy reliance on natural resource extraction for a large proportion of GDP may be at higher risk for civil war than those states that merely suffer from endemic poverty.[136] A poor economy is only one indicator of risk for conflict. Of equal importance is the presence of natural resources for export. These exports provide a ready source of capital for rebel groups to exploit. Moreover, these resources can also fuel conflict by increasing the desires for secession of a resource-rich region from a larger but impoverished country. People in these regions have an economic incentive to secede when they believe that poverty in other regions of their country lowers their standard of living. This incentive is intensified in situations where the government is perceived to be weak and corrupt, reinforcing the belief that secession will improve living standards. Conversely, people from poorer areas will resent and possibly covet the success of other regions. They may also show antipathy towards those politicians who profit from resource exploitation either through control or corruption.[137] These conditions exist in many states across the globe, particularly in much of Africa, Central, South and South-east Asia.[138] It is likely that these areas will experience recurring unrest over the next two decades and probably beyond.

Conclusion

81.   It is clear from the foregoing analysis of the emerging threats to stability that the world of the coming decades will remain a dangerous place with the potential to become even more volatile in the future. In countries with weak governments and fragile economies, these threats have the capacity to bring about state collapse, regional instability, mass-migrations across borders and, possibly, armed conflict. Much of turmoil will be in the developing world. The sources of instability vary by region but there are several common features that plague most if not all failing states: insufficient economic growth to mitigate the demands of fast growing populations; shortages of potable water and other vital resources; the spread of new pandemic diseases and the resurgence of others; and climate pressures, including droughts, floods and extreme weather conditions. All of these problems have been exacerbated by the rapid growth of Third World cities, most of which lack adequate infrastructures to provide even

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136 Collier, "The Market for Civil War", pp. 40–41.

137 Collier, Op Cit. pp. 41–42. Collier, et al. *Breaking the Conflict Trap*, pp. 53–91.

138 Papua New Guinea is a current case in point. The economy is stagnant, job creation is negligible, violent crime is increasing and the government has lost control of the oil rich highlands to armed bands. See Mark Forbes, "Papua New Guinea On the Road to Ruin, Study Finds," *The Age* (theage.com.au), 12 March 2003.

rudimentary sanitation and health care. To a degree, solutions exist to these problems –
falling costs of desalination, the potential for breakthroughs in biotechnology that help to
tackle food shortages and the threat of pandemic disease and even economic growth in
the developing world that enables these societies to meet the demands of their growing
populations.   Given the magnitude of these problems, however, it seems clear that the
wealthier states will be severely challenged in meeting the troubles that lie ahead.

VI - Conclusion

82.   The future is uncertain. Attempts to anticipate what lies ahead must be, by necessity, conditional and inexact. Despite these pitfalls, strategic planners must think about the future and determine the likely challenges and threats that may arise. This consideration reflects the underlying rationale behind both the framework of this study and the specific conclusions drawn from the analysis of the security environment in 2025. The future may not unfold as it has been described in these pages. Indeed, it never was the intention of this document to provide an accurate prediction of the future. From the outset, the aim has been to assist departmental strategic planning by endeavouring to highlight the most probable developments and difficult challenges the CF may face in the next twenty years. It should serve as a point of departure for subsequent departmental discussions among force developers about the dominant trends and issues that must be addressed by the CF over the next two decades to ensure that it remains an effective and relevant force capable of safeguarding Canadian national security and protecting Canada's interests in the world.

83.   Over the next two decades, the world will remain a dangerous place. Some regions will desire and seek to live in peace, enjoying the fruits of prosperity derived from successful participation in the global economy. Others will not be so fortunate. Many states and societies in the developing world will continue to be torn by instability and violence. It may be difficult to accept, but there is a genuine possibility that the world of 2025 will be a much more dangerous place than it is today. This is a disturbing conclusion but it cannot simply be wished away. For the next twenty years and probably beyond, the problems generated by failing states and failing regions will command much of the world's attention. Failure in the developing world will result from a combination of factors, but three interconnected issues will be paramount: the inability of some countries to compete in the global economic system resulting in persistent poverty; the difficulties arising from resource scarcity, especially fresh water and energy supplies; and the pressures of rapid urbanization, environmental degradation and pandemic disease. Alone or in combination these factors may lead to failure and may, in extreme cases, trigger civil war. These problems will be brought home to the publics of the world's wealthiest countries through the global media and will likely be accompanied by an increasing number of demands for intervention.

84.   Interventions will be difficult because failed states produce complex operating environments. As urbanization continues in the developing world, the problems of

operating in dense urban areas without the infrastructure found in the developed world will have to be taken into consideration. In addition, failed states pose a range of challenges from the need for security (provided largely by armed forces) to the delivery of humanitarian assistance (overseen and implemented by a combination of international and non-governmental organizations). Armed forces are increasingly expected to operate side-by-side with civilian agencies, sometimes engaged in simultaneous operations fighting adversaries, stabilizing recent conflict areas and assisting in the distribution of humanitarian aid. These developments have eroded the traditional concept of the battlefield and given rise to an emerging operating environment that emphasizes multi-agency and multinational cooperation.

85.   The problems of failing states will be genuinely global in scope because the potential trouble spots affect most of the regions of the planet. Global mobility, the ability to deploy forces and humanitarian aid to the various regions of the globe, will be an essential requirement for advanced, wealthy countries in order to bring humanitarian relief, restore order or, when called upon, to engage adversaries. However, it is not just the ability of getting to the trouble spots that poses problems. An ability to remain mobile once deployed is also critical. Based on the experiences over the past decade, it has become clear that humanitarian efforts and stabilization operations often take place in states or regions with poor infrastructure, making deployment, employment and sustainability all the more difficult. Therefore, the capacity to move operationally and tactically in areas with little infrastructure and support may also be required.

86. As the chapter on US predominance argues, the extent and nature of US participation in global affairs will be critical in shaping the future response to the problems of failed states and other issues such as the ongoing war against terrorism. The importance of US engagement in maintaining international peace and security became clear in the 1990s when the UN and NATO struggled with several crises in the Balkans. US involvement proved indispensable to multinational efforts aimed at resolving these problems. In the future, the extent of US engagement in global affairs and whether American economic and military predominance continues will be significant factors shaping the security environment.

87. Should US military predominance continue, there are three significant implications for the future security environment. First, those countries that wish their armed forces to participate in future international coalitions involving the United States must not only possess a degree of technological compatibility with US counterparts but also be

familiar with the doctrinal and conceptual thinking of US forces. For most countries this issue remains largely confined to the realm of expeditionary capabilities, specifically the ability to participate in operations outside of one's own country or region. Not so for Canada. America's military predominance poses unique and far-reaching problems for Canadian policy-makers because Canada's geographical proximity to the US makes this country particularly influenced by the growing US emphasis on homeland defence and North American continental security.

88. The second implication of continued US predominance is the potential that several states may increase efforts to acquire Weapons of Mass Destruction (WMD) as part of a denial of access strategy. These states may attempt to run a race with the United States, betting that they can gain a WMD capability sufficient to deter American military action before efforts are in place to forestall or deny this eventuality.

The result may be greater WMD proliferation, including the spread of nuclear and radiological weapons.

89. The third implication stemming from continued US superiority is the prospect that adaptive adversaries will increasingly use asymmetric methods and approaches to offset America's advantages. Weaker states or non-state actors that wish to challenge the United States must avoid direct confrontations with US forces and look for ways to target American weaknesses. In other words, they must attack US vulnerabilities. Most of these vulnerabilities involve what might be considered the soft underbelly of US strength: its civilian infrastructure or, more broadly, its society.

90. Concerns about modern society's vulnerabilities and the catastrophic potential of a terrorist nuclear attack have created what might be called a convergence of fear. Based on this fear, the United States is clearly moving ahead with plans to augment the security of the homeland. While US policy-makers will continue to strengthen homeland security, they will also pursue an aggressive campaign of eliminating terrorist bases of operations abroad. The challenge confronting Canada in the years ahead will be defining an appropriate strategy that can deal with the inevitable shifts in US strategic focus as it responds to the evolving war on terrorism. As the importance of homeland security rises in response to the perception of threat, this will likely be accompanied by increased American emphasis on continental security cooperation. As the focus shifts to distant lands that offer sanctuary to terrorists, either tacitly or because they are unable to exert control over their territories, the United States will seek allies who are prepared to join them in eliminating these bases of operations.

91.   The war on terrorism provides a useful framework for understanding the nature of many of the tasks that lie ahead for the CF as well as other government departments. A successful long-term strategy to deal with Al Qaeda and its associated groups must involve more than just the application of military power. As Rohan Gunaratna points out in his excellent study of Osama Bin Laden's terrorist network: "To challenge Al Qaeda and its associated groups successfully, the international community must develop a multipronged,   multiagency,   multidimensional   and   multinational   response."[139] Multinational information sharing between police, intelligence and security forces as well as coordinated and targeted multiagency development/education efforts are just two areas that will be required together with military deployments to combat terrorism effectively in the long run.   These "multipronged" endeavours are, in fact, mutually supporting. "Military methods," writes Gunaratna, "will provide the security and political conditions to implement the far-reaching socio-economic, welfare and political programs that will have a lasting impact."[140] A similar approach must be adopted to deal with the range of problems associated with failing states and regions.

92.   It has been argued that armed forces, in order to contend with terrorist networks, need to assume more network-like organizational attributes, based on decentralized and cellular units. It is doubtful that this strategy will lead to success. Terrorist networks adopted cellular structures because they could not match the superior resources of their chief adversaries, nation states. Unable to confront states directly, terrorists turned to asymmetric methods to achieve their objectives. Thus, the key to success is not to become more like terrorist cells. Rather, it is to develop strong linkages with other government departments and agencies, utilizing the unique competencies and capabilities that each provide with the aim of applying the vast resources of nation states asymmetrically against the vulnerabilities of non-state adversaries.

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139 Rohan Gunaratna, *Inside Al Qaeda. Global Network of Terror* (New York: Berkley Books, 2003), pp. 294–95.
140 *Ibid.*, p. 311.

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   This report analyzes geopolitical, social, military, technological, environmental, and health trends to develop understanding of how the security environment of 2025 might be. The intent of this project is to inform the thinking of the Defence Management Committee regarding the potential future as they consider development of Defence Strategy 2025. Additionally, this report might also inform force development and policy development staffs as they consider the future and what measures they need consider carying out their work. It is recognized that the security environment described in this report may not come to pass as outlined, however the intent of its production is to foster broader thinking on the future.

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**Futures Analysis
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