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Disasters, Diseases, Disruptions: a new D-drive for the EU

Stefan Elbe, Urs Luterbacher, Antonio Missiroli, Bengt Sundelius and Marco Zupi

Edited by Antonio Missiroli

European Union
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Institute for Security Studies
Institut d'études de Sécurité

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European Union

Institute for Security Studies
European Union
43 avenue du Président Wilson
75775 Paris cedex 16
tel.: +33 (0)1 56 89 19 30
fax: +33 (0)1 56 89 19 31
e-mail: institute@iss-eu.org
www.iss-eu.org

Director: Nicole Gnesotto

ISSN 1017-7566
ISBN 92-9198-079-X
Published by the EU Institute for Security Studies and printed in Condé-sur-Noireau (France) by Corlet Imprimeur. Graphic design by Claire Mabille (Paris).

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Préface

Nicole Gnesotto

Conflits armés, guerres civiles, terrorisme, prolifération nucléaire, tels sont quelques-uns des grands titres qui mobilisent traditionnellement les agendas stratégiques des Etats : des menaces qui impliquent toutes un niveau de violence, réelle ou potentielle, à dominante militaire et qui supposent surtout une intention agressive de la part de l'un ou l'autre des acteurs concernés. La plupart des réponses envisagées, au niveau national ou multilatéral, mobilisent en général des catégories bien définies d'instruments, de procédures, d'institutions, de cadres juridiques et conceptuels, même si les divergences politiques entre les Etats sur la pertinence ou la nécessité de telle ou telle réponse perturbent parfois la prévisibilité de la coopération internationale.

Rien de tel toutefois avec ce qu'il est convenu d'appeler les défis globaux – le sida, les grandes pandémies, le réchauffement climatique, la pauvreté, les catastrophes écologiques et naturelles : ils n'impliquent aucune intention agressive, marginalisent dans une large mesure la notion de puissance militaire, rendent caduques les notions de souveraineté et de réponses nationales, tout en se révélant incomparablement plus meurtriers et dangereux pour les sociétés humaines que ne peuvent l'être le terrorisme et l'ensemble des menaces traditionnelles. La Stratégie européenne de Sécurité rappelle ainsi que 45 millions de personnes meurent chaque année de faim et de malnutrition. Le sida est en train de décimer une partie des forces vives de l'Afrique. Quant aux catastrophes naturelles comme le tsunami de décembre 2004 ou le cyclone Katrina à la Nouvelle Orléans, elles laissent sur leur passage des milliers de morts et des traumatismes durables. Or, en matière de traitement collectif de ces enjeux planétaires, la communauté internationale témoigne de carences majeures.

Afin de décrypter les enjeux de sécurité portés par ces défis globaux, les meilleurs experts européens ont été sollicités par l'Institut, à l'initiative et sous la direction d'Antonio Missiroli, Senior Research Fellow à l'Institut pendant quatre ans et aujourd'hui Chief Policy Analyst au European Policy Centre de Bruxelles. Réunies pour la première fois dans un seul volume, ces études tracent un bilan de la sécurité mondiale résolument non conventionnel. Elles appellent un débat de fond sur les priorités sécuri-

taires de la communauté internationale, sur le rôle moteur que joue et devrait jouer l'Union européenne, sur la responsabilité des grandes puissances, à commencer par les Etats-Unis, dans la mise en œuvre d'instruments et de cadres collectifs de réponse à ces défis.

La multitude de ravages causés aux Etats-Unis par le cyclone Katrina, y compris sur le plan politique, confirme d'ores et déjà un certain nombre d'évidences soulignées dans ce Cahier de Chaillot. *Tous les Etats, riches ou pauvres, puissants ou non, du Nord comme du Sud, libéraux ou autoritaires, sont également vulnérables à l'une ou l'autre de ces menaces globales. Ils le sont d'autant plus que le continuum ne cesse de se resserrer entre les questions qui relèvent de la protection de l'environnement, du mode de développement économique des Etats, de l'instauration d'une gouvernance internationale. Parce que leur imbrication abolit le plus souvent les frontières géographiques, économiques ou politiques, ces défis globaux exigent la mise en œuvre d'un système de cadres multinationaux de prévention et de gestion (Kyoto, OMS, PNUD, etc.) qui placeraient résolument l'intérêt général de la planète et la solidarité humaine au-dessus des intérêts particuliers des Etats ou des systèmes. Douce utopie ou réalisme visionnaire ? Le débat en tout cas ne peut plus être masqué.*

Paris, septembre 2005

Introduction

The European Security Strategy (ESS) issued by the European Union in December 2003 devotes its first chapter to what it calls 'global challenges'. Among these, 'globalisation' is considered as an ambivalent phenomenon, namely one bringing freedom and prosperity to many people – along with new dependencies and vulnerabilities – but also one perceived by others as a source of frustration and injustice. The text also highlights a series of worrying facts that urgently require our attention:

- the increased number of civilian casualties and displaced persons in the numerous conflicts that have erupted since the end of the Cold War;
- the lethal combination of poverty and disease – old and new – in the developing world, and their impact on human security (and security in general);
- the harsh competition for natural resources (from water to energy) that can be worsened by global warming and may trigger turmoil, violence, and mass migration.

Most of these challenges – poverty, infectious disease, drought and famine, violent conflict – affect today's Europe only indirectly and/or moderately, although they certainly had a much more direct impact on the continent in past centuries (including the last one). However, some of them – global warming, infrastructural disruptions, migration flows – may affect European societies in a much more dramatic fashion in the future.

The main goal of this *Chaillot Paper* is to try and explore the various issues involved and their (actual and potential) correlations more fully. It dwells upon their root causes and the EU policy record so far, and it puts forward a few tentative recommendations on how to move ahead. It does so by resorting to a series of key 'D' words (*Stichworte* in German) that may help situate and conceptualise the different challenges, adopting an approach not unlike that of Madeleine Albright, in the wake of the St-Malo Declaration,

with her famous '3 Ds' regarding European defence.[1] This publication, however, does not focus primarily on *D*efence, although the military dimension can indeed be an important part of the picture. Rather, a possible new (or additional) *D*-Drive for EU security policy should encompass what we generally call *D*isasters, namely: environmental *D*egradation, resource *D*eprivation, infectious *D*isease, and functional *D*isruption.

This edited *Chaillot Paper* aims to provide some rudimentary software to start (up) with, in response also to the call for mutual solidarity against 'natural and man-made disasters' that was enshrined not only in art. I-43 of the EU Constitutional Treaty, but also in the European Council Declaration released after the terrorist attack of 11 March 2004 in Madrid, both of which commit the member States to engage to that end 'all the instruments at their disposal, including military resources'. The shocking impact of the Asian tsunami of December 2004 and of the flooding disaster in New Orleans and Mississippi in the late summer of 2005 shows, however, that these challenges are not confined to the European context but are of global dimensions.

1. In response to the Franco-British Declaration of December 1998 launching the new European Security and Defence Policy (ESDP), the US Secretary of State asked for 'no Discrimination' (against European non-EU allies), 'no Duplication' (of NATO assets, capabilities and command structures), and 'no Decoupling' (of European from transatlantic security). See Madeleine Albright, 'The Right Balance Will Secure NATO's Future', *Financial Times*, 7 December 1998, in Maartje Rutten (comp.), 'From St-Malo to Nice – European Defence: Core Documents', *Chaillot Paper* 47 (Paris: EU Institute for Security Studies, May 2001).

1

Disasters – Old and new perspectives

Antonio Missiroli

To be fair, the complex interaction of these new 'Ds' – Disease, Deprivation, Degradation, and Disruption – and their relevance to war and peace as well as to the progress, decline or collapse of nations and civilizations is nothing really new. A few years ago a brilliant and original work written by the American physiologist Jared Diamond, famously titled *Guns, Germs and Steel* (1997), analysed in dazzling detail the way in which the environment – and especially the plants and animals native to a region – has done the most to determine the fates of different groups of people throughout world history.

In areas that lacked domesticable plants and animals, for instance, farming (and the sedentary lifestyle that farming allowed) could not develop: as a result, people remained largely in primitive hunter-gathering tribes. The most important case in point was Africa, despite it having been the cradle of all mankind. By contrast, where those resources were available – starting with the so-called Fertile Crescent in today's Middle East – cultures progressed towards the development of towns, cities, language, technologies and, eventually, the exploration and conquest of other lands. Where agriculture was possible, populations became denser, societies more stratified and specialised, power struggles more likely (hence the 'guns' referred to in the title). In areas that supported only nomadic hunting and gathering, dispersed tribes lived peacefully in many groups.

Proximity to plants and especially domesticated animals created immunity to diseases, like smallpox, that originated in cattle and pigs (the 'germs'). In fact, following Diamond's analysis, much of the domination of farmers over hunter-gatherers was the result of accidental infection. Even Hernan Cortes' and Francisco Pizarro's victories over the Aztecs and Incas owed more to the 'germs' they involuntarily spread among the Amerindian population than to their 'guns' and horses and know-how. By contrast, malaria and yellow fever long prevented Europeans from colonis-

ing tropical areas of Africa, India and South-East Asia, where natives had learned to cope with such diseases.

Climate and also geography – relatively constant latitude, few natural barriers, frequent mobility and therefore contact, exchange, and competition among societies – helped some civilisations develop unique skills: this was the case mainly with Europe and China, which in the fifteenth century A.D. attained similar levels of sophistication. What made a difference – to the detriment of Asia – were 'the wild cards of history', as Diamond calls them: for instance, the fateful decision to abandon shipbuilding and overseas navigation by a new dynastic faction in sixteenth century China, which effectively insulated the whole country from technological progress, or the progressive abandonment of guns by the Samurai elites in seventeenth century Japan. As a result, 'steel' would henceforth remain safely in the hands of the eventual winners: the Europeans and their American offspring.[1]

Diamond's book opened a whole new avenue to researchers, one that – at the risk of displaying a degree of environmental determinism – did away with the slightly racist and overtly West-centred bias of previous surveys of human civilisation. It also paved the way for a broader, more 'global' approach to societal development, which has led him more recently to focus on why certain human societies 'collapse'.[2] At any rate, apart from Diamond's seminal work, there is no shortage of studies available now that may help better frame the challenges of current security environments.

Environmental degradation

Per se, climate change has been a constant natural phenomenon, albeit with significant variations over long geological periods. In turn, global warming – *per se*, once again – has even made the emergence of modern civilisation possible, facilitating human evolution and progress since the end of the Great Ice Age, some 15,000 years ago. In other words, the 'greenhouse effect' – as distinct from man-made 'greenhouse gases' and carbon-dioxide emissions – has been an overwhelmingly positive element in the history of mankind.[3] In this particular respect, therefore, speaking of environmental degradation would be entirely out of place.

Following the groundbreaking hypotheses presented a few decades ago by the French historian Emmanuel Le Roy Ladurie,[4]

1. Jared Diamond, *Guns, Germs and Steel: A Short History of Everybody for the Last 13,000 Years* (London: Chatto & Windus, 1997).

2. Jared Diamond, *Collapse: How Societies Choose to Fail or Survive* (London: Allen Lane, 2005) – compulsory reading for the analysis of 'State failure'?

3. See Brian M. Fagan, *The Long Summer: How Climate Changed Civilization* (New York: Basic Books, 2004).

4. Emmanuel Le Roy Ladurie, *Histoire du climat depuis l'an mil* (Paris: Flammarion, 1967).

and after resorting to a panoply of additional sources that include tree rings and ice cores, climatologists have ascertained that universal, constant but irregular global warming culminated in the Middle Ages, roughly between 900 and 1200 A.D., i.e. when Norse voyagers explored Northern seas, settled Greenland and visited North America; when William the Conqueror invaded England; and when Ghengis Khan's Mongols penetrated Central Asia and Eastern Europe. The medieval warm period then gave way to the so-called 'Little Ice Age' that affected the world between the fourteenth and the nineteenth century. The great gales of August 1588 destroyed more of the Invincible Spanish Armada fleet than the combined guns of English warships. In Continental Europe and elsewhere, agricultural production declined with adverse consequences for populations already ravaged by religious and dynastic wars. Famines were a common and recurrent phenomenon – culminating with the Irish potato famine or 'Great Hunger' of the 1840s – and triggered peasant revolts, mass migrations, and upheavals of all kinds.[5]

Global temperatures began to rise again, slowly but steadily, after 1850. The combination of the agricultural expansion undertaken by the pioneers in the US (fuelled by large-scale emigration) and the advent of railroads and ocean steamships was the first human activity that genuinely altered the global environment. The second came from coal, already a significant air polluter in large cities, soon followed by other fossil fuels. The onset of the Industrial Revolution consolidated this process, although the decades between the 1940s and the 1970s would witness a temporary cooling period that made some scientists think that 'Little Ice Ages' were somehow cyclical. Then the warming resumed at breathtaking pace. Actually, the term 'global warming' entered into current use when climatologist James Hansen testified before a hearing of the US Senate Energy and Resources Committee in June 1988, providing impressive data from thousands of weather stations across the globe. He proclaimed that the Earth was warming on a permanent basis because of humanity's promiscuous use of fossil fuels (deforestation, exploitation, rising consumption by a growing world population), and that the world should expect a much higher frequency of heatwaves, droughts, and other extreme climactic events like El Nino. The environment, in other words, is no longer the backdrop to human activities: it is increasingly the human-made context of life on earth. And its degradation can be

5. The expression 'Little Ice Age' was invented by the Dutch-American geologist François-Emile. Matthes (1874-1948), but the best book on the subject was written by the British archaeologist and anthropologist Brian Fagan, *The Little Ice Age: How Climate Made History 1300-1850* (New York: Basic Books, 2000). See also his *Floods, Famines, and Emperors: El Nino and the Fate of Civilizations* (New York: Basic Books, 1999); and Pascal Acot's *Histoire du climat – du big bang aux catastrophes climatiques* (Paris: Perrin, 2003).

poverty-driven (e.g. felling of tropical rainforests, toxic waste, obsolete technologies) as well as wealth-driven (e.g. man-made greenhouse gases).

As a result, over the last century global average temperatures have risen by 0.6 % worldwide, and twice as much in Europe. A report delivered in 2004 by the European Environmental Agency, based in Copenhagen, suggested that on present trends global average temperatures might rise by 1.4 to 5.8 degrees Celsius by the end of the twenty-first century. For Europe, the forecast increase is even higher, between 2 and 6.3 degrees. The gap between these estimates is extremely wide, of course, and the debate among scientists over the relative impact of global warming is still wide open. The lack of decisive evidence makes it as much a judgement call as a case for bias and overt advocacy. Given the existing instruments, in fact, it is extremely difficult to assess what the prevailing trend is. How much warmer will the earth become, and how fast? Which regions will be better (or worse) off as a consequence of global warming? Will there be more floods or more droughts? Will continental Europe become more like Siberia or more like Thailand? Will the UK become more like Provence or more like Quebec? And what about neighbouring regions, or the rest of the world?

What is known, or at least generally acknowledged even without entirely buying Lovelock's 'Gaia' theory,[6] is that the Earth as such will adapt to all that. Some scientists even argue that global warming is a positive phenomenon because it makes the planet – otherwise prone to returning to a new ice age – more habitable. Others believe that scientific and technological progress will create the means to reduce greenhouse gases (a view shared by the current US administration). And most experts think that mankind, too, will adapt to climate change, as it has done over the past millennia: but at what price? Climate instability is now a certainty: take the floods in Central Europe in summer 2002, the deadly heatwave of summer 2003 in France, the increased frequency of all sorts of disasters also on European soil. And add to that the likely global effects of the rise of China and India as powerful industrial economies (hence the allusion to 'steel'). The biggest impact is on agriculture, of course, and will be strongest in the developing world: not unlike poor peasants in medieval and modern Europe, entire communities in Africa and Asia will be exposed to major economic, social and physical disruptions, thus raising demands for humanitarian assistance and disaster relief, but also triggering political turmoil and migrations,

6. In the early 1970s, independent British scientist James Lovelock suggested that life, principally in the form of bacteria and algae, does play a role in the homeostatic process that keeps the planet habitable – and has done so for more than 2 billion years. On a tip by novelist and Literature Nobel Prize winner James Golding, he called this system 'Gaia', after the ancient Greek earth goddess. He argues that it will adapt as human activity enhances the 'greenhouse effect', even if the adaptations are not favourable to human life.

thus generating new vulnerabilities. All this calls for a wide array of joint policy responses in terms of mitigation, adaptation, and long-term planning,[7] as Urs Luterbacher also argues in his contribution to this *Chaillot Paper*.

Interestingly, a study commissioned not long ago by the Pentagon concluded that 'a plausible, though not the most likely scenario' for the future is one in which the ocean conveyor belt comes to a halt as a result of global warming, because the melting of the ice pack in the Arctic and the ensuing desalinisation could stop the Gulf Stream that flows from Florida to the North Atlantic and Western Europe, thus engendering a comprehensive freezing of the whole area. Such a scenario is considered a potential cause for conflict and major wars across the world.[8] Yet here, too, there is nothing really new. As David Michel likes to point out, the security factor has often been a major reason for government concern with climate change. Following World War II, the Hungarian-born mathematician John von Neumann, while using computers to model nuclear explosions, realised that the mathematical problems raised by simulating nuclear testing were the same as those raised by weather forecasting, i.e. finding non-linear solutions to fluid dynamics. Working at Princeton in 1950, von Neumann and his colleagues used the world's first computer – ENIAC – to develop the world's first weather broadcasting models. They went on, supported by the Pentagon, to elaborate those models as a means not only of forecasting climate but also of understanding its mechanisms with the ultimate goal of purposely manipulating the weather as a potential weapon against the Soviet Union.[9] And it is widely known that Cold War security thinking was well aware of at least the indirect effects of a 'nuclear winter'.

Depletion and destruction

The environment-security nexus, however, is much broader than that. After the end of the Cold War, in fact, old paradigms started being challenged. On the one hand, a specialised UN agency provided a comprehensive notion of 'human security' that encompassed not only poverty, lack of education and sanitation, but also environmental threats.[10] On the other hand, a distinctively neo-Malthusian approach focused on the threatening combination of overpopulation and shrinking raw materials, a combination

7. For a comprehensive survey see Ken Conca and Geoffrey D. Dabelko (eds.), *Green Planet Blues: Environmental Politics from Stockholm to Johannesburg* (Boulder: Westview Press, 2004). On the policy side see especially David Michel (ed.), *Climate Policy for the 21st Century: Meeting the Long-Term Challenge of Global Warming* (Washington: Center for Transatlantic Relations, 2003).

8. See Peter Schwartz, Doug Randall, 'An Abrupt Climate Change Scenario and Its Implications for United States National Security' (October 2003), available at www.ems.org/climate/pentagon_climatechange.pdf.

9. See e.g. Michel's intervention in Atis Lejins and Antonio Missiroli (eds.), *New Security Challenges and EU Responses*, Latvian Institute of International Affairs: Riga, 2004, pp.61-67, available at www.lai.lv/Kopaa_ANG.html.

10. United Nations Development Program (UNDP), *Human Development Report* (Oxford UP: Oxford, 1994).

potentially leading to waves of environmental refugees and 'eco-wars'.[11] Even NATO funded a pilot research project on the relationship between environment and security that produced interesting results.[12] Ever since, a solid body of empirical research and conceptual feedback has materialised, questioning both the aptness of the term 'environment' – a catch-all umbrella category that means too many different things to different people – and the superficiality of certain initial assumptions.

For instance, the likelihood of large-scale warfare over renewable resources is small, although environmental stresses render many people more insecure. Conflicts over water supply may erupt only in the presence of various other sources of social and political turmoil, be it in the Nile valley across Egypt, Ethiopia and Sudan (including the Darfur region), or in the Middle East, the former 'Fertile Crescent'. Similarly, chaotic urbanisation and overpopulation fuel civil wars only when coupled with other tensions, as in Nigeria or Rwanda. Furthermore, conflicts are more likely to break out over resources that are abundant and concentrated rather than scarce (the so-called 'resource curse'): whether it is timber in Burma, copper in New Guinea, diamonds in Sierra Leone and Angola, minerals in Congo or oilfields in many places, conflicts are about controlling resources that have substantial international market value.[13] As such, they are part of a complicated 'political economy of violence' that links identity struggles to international business connections that supply weapons to the protagonists on the ground, and to the absence of effective state structures.[14]

Finally, and paradoxically, extremely scarce resources and massive deprivation do not necessarily bring about bad governance: by comparison, in fact, truly poor countries are better governed than richer and better endowed ones (famine-ridden Niger and most of the Sahel region are good cases in point), which makes the fight against deprivation and poverty a specific policy area, and one that should not be too subordinate to foreign policy considerations and priorities, as Marco Zupi argues in Chapter 3 of this *Chaillot Paper*. Finally, but less surprisingly, conflicts over natural resources are much less likely to occur in the North (where those resources are indeed mostly processed and consumed) than in the South, where also environmental disruptions – whether droughts, storms, floods, earthquakes or tsunamis – tend to have by far the worst consequences.[15]

11. See e.g. Robert D. Kaplan, 'The Coming Anarchy', *The Atlantic Monthly*, vol. 273, no.2, pp.44-76; Michael T. Klare, *Resource Wars: The New Landscape of Global Conflict* (New York: Metropolitan Books, 2001).

12. See Paul F.Diehl and Nils Petter Gleditsch (eds.), *Environmental Conflict* (Boulder: Westview Press, 2001).

13. See in particular Indra de Soysa, 'The Resource Curse: Are Civil Wars Driven by Rapacity or Paucity?', in Mats Berdal, David Malone (eds.), *Greed and Grievance: Economic Agendas in Civil Wars* (Boulder: Lynne Rienner, 2000), pp.113-35.

14. Mary Kaldor, *New and Old Wars* (Stanford: Stanford UP, 1999).

15. Simon Dalby (*Environmental Security*, Minneapolis-London: Minnesota UP, 2002), provides a comprehensive overview and reappraisal. More generally, see http://ecsp.si.edu .

Disease and deprivation

While environmental degradation and poverty have been analytically connected only quite recently, disease and deprivation have always been closely intertwined. History has shown some cases in which viruses (syphilis and smallpox in particular) have hit royal families and aristocratic milieus very hard. Yet typhus, for instance, has always been a disease of crowding and destitution. After bacteriologist Hans Zinnser's pioneering book on *Rats, Lice and History* (originally published in 1935), which stressed the impact of 'germs' on wars and conquests long before Diamond did, the turning point in this field of research came some thirty years ago with the publication of a comprehensive survey by the American historian William H. McNeill.[16] He basically trawled through all the main epidemics of the past two millennia, starting with the most spectacular examples of what can happen when an unfamiliar infection attacks a population for the first time: the Black Death of the mid-fourteenth century (the first major bubonic plague ever documented) and the cholera epidemic of the nineteenth (far less destructive, but more recent and better documented). In both cases, the virus originated in India: in 1346, the pestilence was first spread by French soldiers, who then made inroads into Italy from Sicily, where it had arrived by sea with the black rats; in 1817, British soldiers and Asian merchants propagated cholera from Bengal – where it was endemic – throughout the Empire and the entire world, triggering the first genuinely 'global' epidemic of modern times. It would reappear at regular intervals until 1912, due also to the Muslim pilgrimages to Mecca and Medina.

Armies and human mobility have always represented major factors in triggering epidemics, from medieval Europe (smallpox, typhus, America-imported syphilis) to the lethal 'Spanish' influenza of 1918-19 (which killed more than 20 million people around the Western world), up to today's Africa and Asia. HIV/AIDS in Sub-Saharan Africa is still spread by the so-called '3 Ms', i.e. 'mobile men with money', ranging from lorry drivers to deployed soldiers. In spring 2003, Sudden Acute Respiratory Syndrome (SARS) reached Toronto – and brought the whole city to a sort of new quarantine, within hours of its initial outbreak in Southern China. Ironically, in other words, human progress increases vulnerability to disease, as does persistent exposure and proximity to animals, including for industrial and scientific pur-

16. William H. McNeill, *Plagues and Peoples* (New York: Doubleday, 1976).

poses. The BSE scare of the 1990s (Creutzfeldt-Jakob syndrome, or 'mad cow' disease) originated from alterations in the natural food chain. HIV/AIDS – not unlike the Marburg and Ebola viruses – came from monkeys.[17] SARS from civet cats, and Avian (or bird) flu from geese and ducks, whose migratory patterns now threaten to spread the disease to Russia and mainland Europe. This may well be just an additional side-effect of 'globalisation' – another catch-all term that explains very little indeed[18] – but, although infectious diseases are increasingly 'globalised', they continue to have a disproportionately large impact on the poor and the developing world, as Stefan Elbe clearly explains in his contribution to this *Chaillot Paper*.

Historically, what started making a difference was the gradual organisation of medical professions in Europe around schools and hospitals. Primitive forms of inoculation appeared in France and England at the end of the eighteenth century, mainly among elites. But it was not until after the mid-nineteenth century that the practice of medicine made an impact on human survival rates and population growth, especially since entire armies began to be immunised by command from the top. In this respect, Napoleon Bonaparte's insistence on prophylaxis and inoculation against smallpox among all men under his orders – an example soon followed and perfected by the Prussians and, later on, the Japanese – may be considered the first major turning point in history. The scientific discovery of disease-causing 'germs' by Pasteur and Koch in the 1870s and 1880s, paving the way for large-scale vaccination, may well be considered the second one.[19] For its part, the insecticidal power of DDT[20] in the mid-twentieth century made combating deadly mosquitoes cheap enough to affect the worldwide incidence of malaria in a significant way.

International medical organisation of a formal and official kind dates back to 1909, when an International Office of Public Hygiene was set up in Paris to monitor outbreaks of plague, cholera, smallpox, typhus, and yellow fever. The office also attempted to define uniform sanitary and quarantine regulations for the European countries. The League of Nations, too, set up a Health Section, but in the interwar period more important work was done by the Rockefeller Foundation with its programmes targeting yellow fever and malaria – until, in 1948, the World Health Organisation was established, bringing a quantitatively and qualitatively new dimension to sanitation policies across the world.

17. The so-called Marburg virus appeared for the first time in tropical Africa in 1967, and is currently enjoying an unexpected comeback in Angola. The first major outbreak of the Ebola virus occurred in Congo/Zaire in 1976, but new cases occurred in 2004 in Sudan and Uganda. For a compelling analysis of the new epidemics, see Laurie Garrett, *The Coming Plague: Newly Emerging Diseases in a World Out of Balance* (New York-London: Penguin, 1995). On Avian flu and, more generally, global diseases see the special section 'The Next Pandemic?' in *Foreign Affairs*, vol.84, no.4, July-August 2005.

18. As Manfred Steger observes, 'since its earliest appearance in the 1960s, the term "globalisation" has been used in both popular and academic literature to describe a process, a condition, a system, a force, and an age' (M.B.Steger, *Globalization: A Very Short Introduction*, Oxford, Oxford UP: 2003, p.7). Its current use in the public discourse dates back to the works of social scientists Roland Robertson and Anthony Giddens in the 1980s. See also Christopher Coker, 'Globalisation and Insecurity in the 21st Century: NATO and the Management of Risk', *Adelphi Paper* no.345, IISS (New York: Oxford UP, 2002).

19. In addition to McNeill's book, see also Patrice Bourdelais, *Les épidémies terrassées: une histoire des pays riches* (Paris: La Martinière, 2003).

20. dichlorodiphenyltrichloroethane

It should not be ignored, however, that some of these developments have occasionally had unintended consequences: the excessive use of antibiotics, for instance, has strengthened certain strains of infectious disease, in particular what is now called 'drug-resistant' tuberculosis, which is extremely contagious and increasingly present also in the industrialised world. The extensive use of DDT has contributed to the depletion of the ozone layer. In turn, the current global warming may contribute to spreading malaria – still the third major infectious disease in the world – over areas still untouched by it.

Yet it is fair to say that, at least in the 'rich' world, most deadly infectious diseases of the past have been put under control or utterly eradicated (e.g. smallpox in 1979). By contrast, both old and new 'germs' still affect the developing world – where weak institutions and bad governance frequently have a multiplier effect – in a significant, at times appalling way, and with tangible security implications.[21] Samples of such 'germs' – including the relevant vaccines and antidotes – have been preserved and stocked by national military authorities across the world, for purposes of both civilian defence and biological warfare.[22] The possibility that any of such agents could be unleashed or released – by choice or by accident, by state or non-state actors – constitutes a persistent security nightmare, which has been made only more acute by the famous anthrax scare of September 2001 in the United States.[23] Even the simple rumour or suspicion of this occurring may trigger a crisis of unpredictable and uncontrollable proportions. More often than not, however, it may prove difficult clearly to distinguish a 'natural' outbreak from a bio-terrorist act, and imperatives of national security and crisis containment could well make it impossible to ascertain the truth.

Disruptions

Whatever the causes, mass disruptions have increasingly become likely contingencies of our lives. Large-scale electricity blackouts may bring entire regions to a virtual halt. When this happened in New England in September 2003, there was uncertainty for a long time as to whether it was the result of a terrorist act. When it happened in Moscow, in May 2005, Chechen groups claimed to have deliberately caused the power failure. The same may well happen

21. See e.g. Gwyn Prins, 'AIDS and Global Security', *International Affairs*, vol.80, no. 5, October 2004, pp.931-952.

22. For a well-documented, balanced and accessible survey, see Robert Harris, Jeremy Paxman, A *Higher Form of Killing: The Secret History of Chemical and Biological Warfare* (New York: Random House, 2002), which originated from a popular BBC programme.

23. It has also been the source of an extensive literature, both investigative and fictional. A good case in point is the US bestseller author and journalist Richard Preston: see his *The Hot Zone* (1994), on Marburg and Ebola; *The Cobra Event* (1997), a fictional story on bio-weapons; and *The Demon in the Freezer* (2002), on smallpox.

with computer viruses and hackers attacking trading or transport systems: due to the speed of modern information 'super-highways' and their growing inter-connectedness, breakdowns in far-away systems may have immediate repercussions in our backyard. Yet most technical disruptions – whether intentional or accidental – have similar practical consequences and require similar responses.

As for the natural ones, philosophers and scientists started inquiring more methodically into them after the tremendous earthquake that hit Lisbon in 1755, which became a *cause célèbre* for the intellectuals of the Enlightenment. From Jean-Jacques Rousseau, Voltaire and the *Encyclopédistes* up to René Thom, 'catastrophes' have preoccupied some of the best minds with regard to their origin, recurrence, predictability and, of course, possible prevention. The sequence risk/accident/disaster/catastrophe has thus become also a categorisation of policy instruments and responses, encompassing scientific research, public policy, social behaviour, information and media. And curiously, while natural disasters are now more predictable, man-made ones are more frequent.[24] We have learned to minimise some risks but new ones have emerged, some of which derive from our successful responses to the old ones: vulnerabilities evolve and vary, thus increasing the potential impact of unintended consequences. And the equation has been made even more complicated, as mentioned above, by the onset of ecological and technological disasters, which make calculating the odds and resorting to the so-called 'precautionary principle' – as used in the private insurance business or civil protection – less reliable.[25]

The German sociologist Ulrich Beck first coined his notion of a 'risk society' (*Risiko-Gesellschaft*) in conjunction with the Chernobyl nuclear incident in 1986,[26] then elaborated it further in the wake of the terrorist attacks of 11 September 2001. His British colleague Anthony Giddens has argued that our 'late modern' societies are still vulnerable – although less than in modern and pre-modern times – to natural and relatively predictable 'external' risks, but are now also vulnerable to new and less predictable 'manufactured' risks. Globalisation is creating large trans-boundary 'risk communities' that share both greater exposure and higher uncertainty.[27] At the same time, the perception and the acceptance of risk still varies hugely across cultures – as the British anthropologist Mary Douglas has shown[28] – as well as across actors and bodies, as most experts in crisis management have pointed out. Bureaucratic

24. See Barry A. Turner, Nick F. Pidgeon, *Man-made Disasters: The Failure of Foresight* (London: Butterworth-Heinemann, 1978); and Peter L.Bernstein, *Against the Gods: The Remarkable Story of Risk* (New York: Wiley & Sons, 1996). For systematic data see www.emdat.net, which provides figures for disasters occurred since 1990.

25. The problem was first conceptualised by the French sociologist François Ewald in his *L'État providence* (Paris: Grasset, 1986). For his part, Patrick Lagadec has analysed how to cope with such events in *États d'urgence: Défaillances technologiques et déstabilisation sociale* (Paris: Seuil, 1988) and, more recently, in *Preventing Chaos in a Crisis: Strategies for Prevention, Control and Damage Limitation* (Maidenhead: McGraw-Hill, 1993). See also Charles Perrow, *Normal Accidents: Living with High-Risk Technologies* (Princeton: Princeton UP, 1999).

26. Ulrich Beck, *World Risk Society*, Cambridge: Polity Press, 1999), (orig. Suhrkamp: Frankfurt a.M., 1986).

27. Anthony Giddens, *Runaway World: How Globalisation is Reshaping Our Lives* (London: Routledge, 2003, 1st ed. 1999).

28. See e.g. Mary Douglas, *Risk and Blame: Essays in Cultural History* (London: Routledge, 2002, 1st ed. 1992).

organisations, for instance, tend to rely on rules and procedures to cope with the uncertainty posed by a risk agent, whereas entrepreneurs (in the broadest possible sense of the term) tend to perceive risk not simply as adversity but also as an opportunity.[29]

Proximity, too, plays an important role: acid rain in Germany, nuclear waste in the Baltic Sea, lethal chemical explosions (Seveso, Bhopal, Toulouse) or uncontrollable oil spills (*Amoco Cadiz, Erika, Prestige*) impact differently on communities according to how close they may be or become, both physically and temporally. Coping and dealing with risks, hazards, and especially actual disasters that cut across national and functional boundaries is now a recurrent feature of public policy – and notably security policy in its broadest possible sense – which calls into question traditional separations and barriers between bureaucracies and arenas.[30] Such diverse bodies and charities as the World Bank, CARE, Oxfam and *Médecins sans Frontières* deal with both deprivation and disaster relief issues. A typical 'external' disaster as the Asian tsunami of December 2004 was perceived (and responded to) in Europe in unprecedented ways. Public agencies – national as well as multilateral, civilian as much as military – deal with such diverse issues as air safety, assistance to refugees, civil protection, surveillance and control of infectious diseases, maintenance of infrastructure and supplies. Finally, 'homeland' security is differently articulated in each country, even within the European Union,[31] and also has wide international and trans-national ramifications – so much so that, in his contribution to this *Chaillot Paper*, Bengt Sundelius speaks of an 'intermestic' policy sphere.

Dealing with disasters

In turn, however, the imperative to manage 'disasters' and their consequences effectively may create unexpected policy dilemmas, pitting values such as individual freedom and public transparency against interests such as collective security and damage limitation. Here lies a specific challenge for any actor involved. And there is no need to resort to Carl Schmitt and his fixation on emergency situations to acknowledge that these may easily become powerful sources of (output) legitimacy – old or new.

Such complexity and interconnectedness help explain why disasters, diseases and disruptions have become quintessential cata-

29. See e.g. Ortwin Renn and Bernd Rohrmann (eds.), *Cross-Cultural Risk Perception: A Survey of Empirical Studies* (Dordrecht: Kluwer, 2000).

30. For a comprehensive critical overview see E.L.Quarantelli (ed.), *What is a Disaster? Perspectives on the Question*, (London: Routledge, 1998). Quarantelli is the Director of the Disaster Research Center of the University of Delaware, arguably the leading institution of this kind in the world.

31. See Gustav Lindstrom, 'Protecting the European Homeland: The CBR Dimension', *Chaillot Paper* 69 (Paris: EU Institute for Security Studies, July 2004).

lysts for solidarity: domestic, bilateral (we only need to recall the 'earthquake diplomacy' of September 1999 between Greece and Turkey), plurilateral, and broadly international. What matters is that solidarity does indeed combine values and interests: in fact, cooperation is desirable for both humanitarian and functional reasons – in the light of the existing different degrees of vulnerability and capacity to react to disasters – but also of their increasingly global and transnational dimension. It has much to do, too, with security and crisis management proper, and not only because functional capabilities and institutional competencies often fall in between policy and bureaucratic arenas.

In the EU, the case for pooling and sharing capabilities in this wider and complex policy sphere is particularly strong. Much progress has already been made in the domain of civil protection, although mostly at the bilateral and plurilateral level. At the EU level proper, specialised units and bodies have been set up within both the Commission (DG Relex and DG Environment, plus some decentralised agencies) and the Council (SITCEN and SATCEN), but without any specific mechanism for interaction and communication. It is therefore desirable that functional interoperability, coordination and synergy be further increased, without leading to unnecessary bureaucratic centralisation. In fact, some key capabilities still remain distinctively national. Yet the willingness and ability to share and pool (and occasionally lend and lease) them among partners is an important condition for developing the Union as a secure as much as a security community. This is not to ignore the fact that the European Union must also play an increasing role in the global risk community – as vividly demonstrated by the recent cataclysmic events generated by Hurricane Katrina in New Orleans and Mississippi.

2

Degradation – Environment, climate change, and the Kyoto Protocol

Urs Luterbacher

Climate change has been on the international agenda since the end of the 1980s. Its visibility was enhanced as of 1988 when the United Nations Environment Program (UNEP) and the World Meteorological Organization (WMO) created the Intergovernmental Panel on Climate Change (IPCC). The IPCC mandate is to achieve a broad scientific consensus on the causes and the likely future evolution of climate change. The climate assessment reports which are issued by the IPCC inform the policy process addressing climate impacts. At the international level, IPCC findings underpin the United Nations Framework Convention on Climate Change (UNFCCC), which was first presented at the United Nations Conference on Environment and Development in Rio de Janeiro in 1992. It moved from a voluntary agreement to one incorporating binding commitments with the elaboration of the Kyoto Protocol in 1997. The enactment of the Kyoto Protocol was assured in 2004 with ratification by Russia. It came into force on February 16, 2005, even though some important industrial nations such as the United States and Australia have refused to ratify it. Other international negotiations have followed similar trajectories in which key countries opt out of the process for long periods. We can look to the period immediately after World War II, when efforts were begun to institutionalise international trade relations. At that time, the United States Senate refused to ratify the International Trade Organization Treaty. It took nearly 50 years between the signature of the General Agreement on Trade and Tariffs (GATT) in 1947 and the establishment of the World Trade Organization (WTO) in 1994. In comparison, the development of the international climate change regime has generated considerable international cooperation and, along with similar efforts to control the use of ozone-depleting substances, is an example of the relatively strong and rapid impact of scientific research on international policy-making. There are reasons for this, not least of which are the links between climate change and several safety and security problems.

Causes and consequences of climate change

Climate change is caused primarily by variations in solar energy reaching the Earth, slight changes in the orbit of the Earth around the sun, or by variations in the amount of so-called greenhouse gases in the atmosphere. These gases, like glass in a greenhouse, have the property to retain heat in the atmosphere from incoming solar radiation. Too small a concentration of greenhouse gases leads to cooling, but excessive amounts of these gases lead to warming. One of the main greenhouse gases is carbon dioxide (CO_2), which is produced whenever fossil fuels are burned, but other gases, such as water vapour,[1] and methane (CH_4), which results from plant decomposition (especially in water), or cattle raising, are also important. Since the beginning of the industrial era, CO_2 concentrations in the atmosphere are estimated to have risen from about 280 to 368 parts per million and methane concentrations from about 700 to 750 parts per billion. Higher greenhouse gas concentrations have been accompanied by an increase of about 0.6% degrees Celsius over the twentieth century. Moreover, the 1990s were the warmest decade of the last millennium. The consequences of such developments are ominous for safety and security: the sharp rise in temperatures is likely to have an effect on climate instability and the frequency of extreme weather events such as storms, hurricanes, and tornadoes. Summers should get hotter and winters warmer. The abnormally hot summer of 2003 in Europe could recur many times with even higher temperatures. These rising temperatures are also likely to cause ocean waters to expand, a phenomenon likely to be aggravated by melting of the ice caps and glaciers in both the Arctic and Antarctic. This rise in the sea level will threaten coastal zones and induce many of the inhabitants in these areas to leave.

The indirect effects on activities linked to the weather, such as agriculture, and on human health, could also be significant. Developing countries are at particular risk because their agricultural production is less flexible than that in industrial countries and, moreover, a large portion of their populations is dependent on it. Moreover, adverse weather conditions are expected to become more frequent in tropical and subtropical areas. The global health situation could also deteriorate as micro-organisms previously confined to tropical areas may expand into other geo-

1. Water vapour is the most powerful greenhouse gas, but since it rises as evaporation and falls as rain or snow, its influence is considered more or less unchanging over time.

graphical zones. Similar developments are likely with regard to pests affecting agriculture.

In addition to being exposed to potentially more natural disasters, the international community may also be confronted with large-scale population movements, mostly from South to North, in proportions so far unseen. Finally, the likelihood for the occurrence of some low-probability global catastrophes increases. Scientists have identified the possibility that a major reversal of present ocean currents like the Gulf Stream could lead to abrupt climatic changes for whole regions or a that a sudden acceleration of the greenhouse effect could occur due to massive release of methane from previously frozen ground (permafrost).

We can draw two conclusions from this brief discussion about causes and likely consequences of climate change.

1) It is necessary to *mitigate* climate change, i.e. to take measures to diminish emissions of greenhouse gases by lowering consumption of fossil fuels and reducing methane through decreased agricultural production in some regions or use of different agricultural techniques.
2) Current levels of greenhouse gas concentrations in the atmosphere have a strong long-term momentum. Even if forceful mitigation measures are adopted, some increase in concentrations is inevitable. Therefore, some climate change will occur even if emission reductions were to begin immediately. Appropriate strategies to *adapt* to it are therefore imperative.

These two forms of response have evolved differently, have different implications for policy choices, and will have different impacts on society in the future. An integrated strategy to confront climate change will necessarily address both aspects and it is important to discuss their histories, the respective measures proposed, and their likely effects.

Mitigation policies

Historical aspects

Mitigation policies addressing climate change have been debated at the international level since the beginning of the 1990s. The elaboration of the Kyoto Protocol in 1997 and its aftermath were

fraught with controversy. Like many other international initiatives, the 1992 Rio agreement took the form of a 'framework convention' (Rio Framework Convention on Climate Change [FCCC]), i.e. a document specifying general principles and recommendations but with practically no remit to impose legally binding mitigation actions. The FCCC goes no further than to oblige countries to report on their greenhouse gas emissions and to recommend that parties develop climate change policies that, for industrialised countries, would lead to a stabilisation of emissions to their 1990 levels by 2000. These general terms were refined in subsequent meetings of the parties to the Convention. The first Berlin Conference of the Parties in 1995 endorsed the notion that industrialised countries should make the major initial effort towards reductions. In 1996 in Geneva, it was further agreed that industrialised countries should work towards 'quantified limitation and reduction objectives within specified time-frames, such as 2005, 2010 and 2020, for their anthropogenic emissions by sources and removals by sinks of greenhouse gases'. This statement prepared the groundwork for the 1997 Kyoto Protocol. Its adoption was assured after the US delegation strongly endorsed the idea of legally binding targets in exchange for the inclusion of market-based instruments, such as an emissions trading scheme. Without this American intervention, the very foundations of the Kyoto Protocol could have been quite different.

The Kyoto Protocol (KP) rests upon a dual foundation for climate change mitigation policies:

1) *Legally binding reduction targets of greenhouse gases* (six gases are enumerated in the KP) for each industrial country or country grouping (such as the EU) with respect to their 1990 levels by the end of the first time period 2008-2012. The Kyoto targets amount globally to a lowering of 5.2 % of industrial country emissions (with a 7% reduction target for the US and an 8% reduction target for the EU).
2) *Use of flexible mechanisms to achieve this goal*. These can take the form of emission reduction trading and joint implementation of reductions between industrialised countries. More importantly, reductions can be achieved through the Clean Development Mechanism. This arrangement allows firms from industrialised countries, as well as the countries themselves, to implement greenhouse gas-reducing technologies in develop-

ing countries in order to share (with the given country) the credit for such reductions. In this way, developing countries can be incorporated into the 'Kyoto' reduction process even before they are officially part of the agreement. The flexible mechanisms also define the only explicit exclusionary principle contained in the protocol: the prohibition of non-members or firms from non-member countries from participating. This exclusion may become important in the future by giving incentives to non-members to join.[2]

The choice of 1990 as a benchmark year for reductions has had important consequences. In 1990, Eastern European countries, particularly Russia and the Ukraine, were still ruled by the Soviet political and economic system. The dismantling of Soviet-style industry during the following years resulted in a tremendous reduction in greenhouse gas emissions (about 30%) for most Eastern bloc countries, a change that has little to do with any mitigation policy. Nevertheless, Russia and the Ukraine now have a substantial margin for manoeuvre in defining terms of emission reduction because the 'hot air' from emission reduction that occurred because of changing industrial practices after the 1990 benchmark can either be used as credit for their own reduction targets or sold to other countries.

All in all, and despite some obvious limitations, the Kyoto Protocol appears as a relatively reasonable compromise. Properly applied, it should both diminish industrialised countries' emissions and, through the Clean Development Mechanism (CDM), ultimately draw in developing countries as well. For the moment, it is difficult to say if it will ever succeed. A first and important step occurred with the Russian ratification and the Protocol's enactment in February of this year. Another important and crucial aspect of the development of Kyoto will be determined by the success or failure of the emission reduction trading market set up by the EU Commission, and yet another when rules for a CDM market are finalised and transfers of clean technology take place in conformity with them.

Since its inception in 1997 and even before, however, the Kyoto Protocol has received a barrage of criticism. It comes mostly from the United States, both from politicians in the House and Senate and from business and intellectual circles. One example of Americans' profound misgivings was expressed in the

2. For more information about Kyoto and the climate change regime, refer to Urs Luterbacher and Detlef F.Sprinz, *International Relations and Global Climate Change* (Cambridge, Mass.: MIT Press, 2001).

Byrd-Hagel resolution passed by the US Senate in July 1997. It refused to commit the US to any binding reduction scheme without the participation of developing countries. The main purpose of the resolution was to influence the negotiations later that year on the final draft of the Kyoto Protocol (KP). Since no obligation for developing countries was introduced into the Protocol, its rejection by the Senate has been taken for granted ever since. Even though support for it continued within the Clinton administration, the Protocol was never sent to Congress for debate or ratification. The Bush administration withdrew from the Kyoto Process in March 2001, declaring the Protocol 'fatally flawed'. This remains the official US position.

Perhaps not surprisingly, the Bush administration's position is supported by several key industrial groups in the US. The objections against the Kyoto Protocol fall into four categories:

1) The Protocol is costly and accomplishes little.
2) Developing countries do not have any obligations under the Protocol and therefore it does not cover some of the main sources of future emissions.
3) The Protocol has no compliance mechanism.
4) Emissions trading will not work because of the Eastern (mostly Russian) 'hot air'.

The validity of some of these objections is highly questionable. The costs of the Protocol have been greatly exaggerated, especially for the United States. Given the fact that the US is an exceedingly high emitter of greenhouse gases (twice the average European rate; almost three times the Swiss rate), its marginal costs of reduction should be relatively lower, a finding confirmed in an MIT study.[3] US GDP percentage cost estimates vary widely, often in parallel with the political orientation of the organisation doing the study. Thus, a study by Manne and Richels[4] puts the cost at 0.75 % of GDP by 2010, but, according to the National Center for Policy Analysis, the cost could be as high as 5.1 %. Such studies however often fail to take into account secondary benefits for US GDP via balance of payment improvements resulting from lower energy imports. Arguably, these could reach up to 9% of GDP over a 25 year period.

It is true that the Kyoto Protocol does not achieve much quantitatively, since even a 5.2% emission reduction (only about half of that if the US does not participate) will certainly not solve the cli-

3. A.Denny Ellerman, Annelène Decaux, *Analysis of Post-Kyoto CO2 Emissions Trading Using Marginal Abatement Curves*, Cambridge (Mass): MIT Joint Program on Science and Policy of Global Change, Report 40, October 1998.

4. Alan S.Manne, Richard G. Richels, *US Rejection of the Kyoto Protocol: The Impact on Compliance Costs and CO2 Emissions*, Washington D.C: Working Paper 01-12, AEI-Brookings Joint Center for Regulatory Studies, October 2001.

mate change problem. However, a narrow quantitative assessment minimises the important political signal sent by the enactment of the Kyoto Protocol to industry, non-industrialized countries, and to international institutions. It is likely that this explicit sign that the world must reduce fossil fuel consumption, especially if accompanied by higher fossil fuel energy prices, would contribute to the development and dissemination of alternative technologies. So far, such a clear signal has been missing, as reflected by still relatively low levels (in real terms) of petroleum prices and the willingness to develop even more fossil fuel uses.

It is also true that developing countries are not subject to legally binding reduction targets within the Kyoto framework. Does this mean that they are untouched by it? Two factors suggest otherwise.

(1) Even though some developing countries (such as India, China, and Brazil) have become important industrial producers, their development depends largely, at least for some time to come, on their ability to export to wealthy regions of the world and thus also to import technologically advanced equipment. These emerging countries will therefore have to adapt to industrial and transportation standards elaborated in developed countries and thus, implicitly, to their environmental components. Moreover, if one observes what has happened in the past in emerging economies, one notices that these have always tended to adopt advanced and more efficient technologies to enhance their competitiveness. Automatic adaptations of this sort are probably already at work in emerging countries.[5]

(2) The Kyoto framework does include ways to involve developing countries by providing them with incentives to control their emissions. This can be achieved via the CDM, which allows individual firms to achieve emission reduction credits by exporting cleaner, i.e. less greenhouse gas producing technologies, to emerging countries. As previously outlined, these new technologies would likely be among the most efficient available. In fact, the CDM could become one of the Protocol's most attractive features if it is linked to an efficient emission reduction certificate market.

5. Japanese and Korean steel plants, more modern that those in the US, are an example of such trends. This automatic adaptation phenomenon must also be happening in China where CO_2 emissions have diminished in absolute levels since 1998. They may be increasing again, but at a much lower rate than anticipated.

The above observations also lead us to question the assertion that the Protocol does not have a compliance mechanism. First, the Protocol envisages fines in the form of additional financial commitments in a second period if reduction targets are not met. However, this is relatively secondary compared to the 'policing' that an efficient certificate market could realize on its own. Like non-performing bonds, certificates issued by non-compliant states that stand behind them should be shunned by the market.

The case of the Eastern 'hot air' seems like a more serious blow to the proper working of the Kyoto Protocol. Without US participation, it could lead to artificially low prices of reduction certificates and thus slow down real emission reductions. This argument however, does not take into account the possibility of emission reduction 'banking' by Ukraine and especially Russia. It is doubtful that these countries will be able to participate in an emissions reduction market outside of the one that has been established by the European Commission. This is especially true for the Ukraine, which wants to enter the EU, but also for Russia which will have trouble marketing its 'hot air' elsewhere since the US does not participate in the Kyoto process. It will then be up to the European Commission to define the terms of the exchange of Russian certificates. For the moment at least, no plans to sell hot air have emerged from these eastern countries.

The conclusion from this brief analysis of objections to the Kyoto Protocol shows that the complaints have little merit. The real question is why US opposition to it is so strong. In some ways, its attitude is reminiscent of the hostility that surrounded the launching of the euro. The European common currency was declared to be unworkable and inefficient, a position that partially masked the not unfounded fear that the euro could in some ways diminish the role of the dollar as an international reserve currency, with the negative consequence that the US would be forced to confront its own indebtedness. The acceptance of the Kyoto Protocol might have similar negative effects on key US industrial actors or even on a significant number of US consumers.

Kyoto and the US political economy

Economists and political scientists have long been interested in the motivations and strategies of groups opposed to legislation

and treaties that seek to maintain or improve international social welfare. There are two puzzles here. The first is why such movements want to influence the political process, and the second is why they are often successful. The story that emerges is one of companies threatened by liberalisation or regulations preferring to invest in the political process to extract protective measures from legislation rather than improve their own competitiveness or conform to rules. Trade agreements differ fundamentally from environmental ones because in the latter case refusal to cooperate ('first mover advantage') presents immediate benefits for individual states,[6] but consequences are similar. In both cases, some industries or some segments of the population are more affected by the obligations stemming from the treaty than others. Thus comparable incentives exist to fight the ratification of particular agreements. Even though the costs of implementing an environmental agreement might be low for society at large (as they seem to be for the US) and offer tangible long-term advantages, the immediate impact upon some segments of societies and industries might be extremely important.

To gain a better understanding of reactions to Kyoto, some aspects of the structure of the US economy must be examined. The US economy is both more energy-intensive and in some ways more labour-intensive than that of the European Union. This makes the US a much bigger per capita consumer of energy and emitter of greenhouse gases. This holds not only for transportation, on which most attention is focused, but also for industry, especially electricity production. The energy intensity[7] of the overall US economy is 0.25 and just 0.18 for the EU (both terms adjusted for purchasing power parity). Similarly, US industry is much more energy- intensive: 0.45 to the EU's 0.38. This disparity is also reflected in CO_2 emissions per unit of GDP which are almost twice in the US what they are in the EU: 0.63 to 0.38. Per capita emissions of CO_2 are also more than twice those of the EU (EU: 8.46 tons versus 19.84 for the US).

Two factors explain such discrepancies. On the one hand, the US uses about twice the amount of energy of the EU for transportation; on the other, the US uses coal to produce 51% of its electricity, whereas only 27% of EU electricity is coal-based. If the US were to conform to its Kyoto obligations, the transportation (essentially the car industry) and electricity sectors would have to make the greatest direct adjustments. Indirectly, coal and, partic-

6. In this way somebody else is either taking care of the problem or can be blamed for it.

7. Energy intensity is a measure of the amount of energy consumed (oil or coal equivalent) per $ unit of GDP.

ularly, marginal oil producers would also be affected. For industries already threatened by international competition, such as automobiles or parts of the energy sector with high production costs, climate change mitigation would add additional pressures. The same can be said for industries like steel whose only competitive advantage is low energy costs. It is not surprising that we find these industries represent a significant proportion of opponents to Kyoto. However, it is not only industry but also some of the poorest segments of the US population that would also be affected by tighter energy policies. A Gallup-CNN poll of April 4, 2005 reveals that 'gas prices are causing financial hardship for a majority of Americans'. Further increases in gas prices are inevitable under more serious climate change mitigation policies, causing greater hardship for lower- income Americans because of their immediate impact upon the cost of automobile use, a necessity in the absence of public transportation alternatives. Numerous factors combine within the US political economy to generate opposition to participation in a climate change agreement. Industry support for such an accord rests only with advanced service sectors such as insurance or energy trading which do not fear competitive pressures and thus have less of an incentive to invest in the political process. Unless basic aspects of US industry or infrastructure change, such as a breakthrough in energy technology, incentives to oppose any sizeable international emission reduction effort will persist. The recent G8 Gleneagles summit seems to indicate that the US is moving a bit closer to the EU position, recognising the role of human activities in climate change and admitting the necessity of some action that should include emerging economies like China and India as well as the role of the UN in future negotiations. Fundamentally, though, with respect to the Kyoto protocol the US position has not changed. Is meaningful US participation in an international climate mitigation process a hopeless cause? Without undue optimism, there are some reasons for hope.

Necessary components of an effective mitigation process

The Kyoto Protocol came into force on February 16, 2005, and with it all the flexible mechanisms for emission reduction trading. Among them, the Clean Development Mechanism has the potential to involve industries from industrialised countries

directly and to encourage developing countries to adopt voluntary emission reduction measures. The CDM has the additional advantage of creating incentives for firms from non-participating countries which might then encourage wider participation in the Kyoto Protocol. New investment possibilities offered by developing countries are only available to firms from Kyoto-ratifying countries, giving outsiders reasons to put pressure on their own countries for ratification. For such incentives to exist, there must be an effective market for emission reduction certificates, i.e. a sufficient number of participants and no cheating either by countries benefiting from the CDMs or firms providing the technologies. The first condition implies the existence of a well functioning, wider emissions trading market. Such a market is now being put in place by the European Commission. If successful, it could produce a demonstration effect for firms in non-participating countries.

This optimistic assessment contradicts criticism that arose, especially in Europe, in the context of the discussions to which the Kyoto Protocol gave rise and specifically the notion of reduction targets. Contrary to the argument that targets should be achieved through purely domestic measures, one of the only hopes for enlarging the Kyoto Protocol is to engage in systematic trading. Within this context, however, it is essential that the CDM creation and exchange are properly monitored in order to avoid fraudulent claims. The question of whether this is possible within the framework of the Kyoto Protocol is related to how markets can be organised efficiently within a minimal institutional framework. The following criteria must be met: (1) States cannot adopt discriminating practices and (2) industries must be prevented from cheating and reneging on their credit obligations. Shunning of discriminators and denial of credit to non-compliers should be enough to enforce such a system.

As national entities, countries like the US have refused to participate in the Kyoto Protocol. However that does not mean that sub-national entities, in particular American states, are not interested in climate change mitigation. Movements to organise policies aimed at reducing greenhouse gas emissions have been started in the US North-East, in North-Western states such as Oregon and Washington, and also in California. These regions have shown interest in the organisation of European emission trading. Benito Müller of the Oxford Energy Institute has ana-

lyzed the effects of sub-national participation and concluded that it is a viable approach.[8] It might enhance the demonstration effect of an efficient emission reduction market. It would, however, require acceptance by these sub-national entities of specific reduction targets for their territories. Given the example of the pioneering role of American states such as California in setting cleaner automobile emission standards, such sub-national efforts could eventually result in a *de facto* imposition of reduction targets for the country as a whole. This attractiveness of the Kyoto mechanisms has not escaped the US administration, which has been trying to push its own alternative solution in the form of a six nation pact that aims to cut greenhouse gas emissions via the use of technology. However, this pact that links the US, Australia, Japan, India, China, and South Korea is relatively vague and confirms already existing bilateral agreements. It does not seem to include the strong incentives present in the Kyoto protocol for individual industries. It is thus unlikely to wean the 'Kyoto countries' (Japan, India, China, and South Korea) away from their obligations and incentives to cooperate especially with the EU within the framework of the Protocol.

What about the EU?

The European Union is committed to reducing its total emissions by 8% with respect to their 1990 level (this reduction target applies to the EU-15 member states). Greenhouse gas emissions from the 10 countries that joined the EU in 2004 (EU-25) will not count towards the EU reduction target. The new members are keeping their own reduction targets within the range of 6% to 8% as outlined in the Kyoto Protocol, to be met by 2008-2012. The following table summarises commitments and their relation to current emissions (source: Eurostat).

8. Benito Müller, 'Quo Vadis, Kyoto? Pitfalls and Opportunities', *Key Note for the Civil Society Outreach of the G8 meeting of Environment and Development Ministers*, Oxford Climate Policy Institute, March 2005.

Greenhouse gas emission in CO_2-equivalents and Kyoto Protocol targets for 2008-2012

	GHG[1] emissions for base year (Mt[2] CO_2)	Reduction target [3]	GHG emissions 2002 (Mt CO_2)	Change 2002 relative to base year (in %)	Change 2002 relative to 2001 (in %)
Austria	78.0	-13.0 %	84.6	+8.5 %	+0.3 %
Belgium	146.8	-7.5 %	150.0	+2.1 %	+0.5 %
Denmark	69.0	-21.0 %	68.5	-0.8 %	-1.2 %
Finland	76.8	0.0 %	82.0	+6.8 %	+1.7 %
France	564.7	0.0 %	553.9	-1.9 %	-1.4 %
Germany	1253.3	-21.0 %	1016.0	-18.9 %	-1.1 %
Greece	107.0	+25.0 %	135.4	+26.5 %	+0.3 %
Ireland	53.4	+13.0 %	68.9	+28.9 %	-1.6 %
Italy	508.0	-6.5 %	553.8	+9.0 %	-0.1 %
Luxembourg	12.7	-28.0 %	10.8	-15.1 %	+10.4 %
Netherlands	212.5	-6.0 %	213.8	+0.6 %	-1.1 %
Portugal	57.9	+27.0 %	81.6	+41.0 %	+4.1 %
Spain	286.8	+15.0 %	399.7	+39.4 %	+4.2 %
Sweden	72.3	+4.0 %	69.6	-3.7 %	+2.0 %
United Kingdom	746.0	-12.5 %	634.8	-14.9 %	-3.3 %
Total EC	4245.2	-8.0 %	4123.3	-2.9 %	-0.5 %

Notes: (1) GHG = greenhouse gas. (2) Mt = megatonnes. (3) EU-15 = burdensharing target.
Source: Eurostat.

It can be seen from reading this table that in 2002 the EU was still relatively far from its reduction target. This is primarily because major southern European countries such as Italy, Spain, Portugal and Greece largely overshot their targets (which, moreover, had allowed increases). This is also the case for Ireland. If this overshooting continues, the EU will have some difficulties in meeting its overall target. Indeed it had only achieved -2.9% in

2002, still far from the necessary -8%. However, even if remedying this situation proves difficult, three factors give some grounds for optimism.

- Energy sectors, especially coal-based ones, are usually closely associated with the state and thus the same politico-economic incentives found in the US do not exist. Moreover, the population depending on coal for their revenues constitutes a small minority. Even in Germany, which is the highest user of coal for electricity production, a sizeable quantity of it is imported.
- Creation of the EU emissions trading market by the Commission should accelerate reductions.
- Even if it proves difficult to reduce emissions in Southern Europe (especially in Spain, one of the major target overshooters), great reduction potentials still exist in the major European emitter, Germany. Germany uses proportionally as much coal as the US to generate electricity (51% of total electricity generation).

The message is clear. Within the EU, reducing coal consumption would be particularly effective and Germany is well placed to contribute substantially to the overall European emission reduction. German CO_2 emissions originating from electricity generation were almost twice the amount resulting from the transportation sector in 1999 (37% versus 21 %). If we imagine that all of Germany's coal-fired electricity generating plants had been transformed into gas plants by 2002, this would have meant a reduction of -6 % for Europe as a whole, very close to the reduction commitment of -8% with respect to 1990 levels. Not only German coal use but also that in Spain and Italy could also be targeted.

Adaptation policies

We cannot avoid substantial climate change, which will take place because greenhouse gases emitted in the past have accumulated in the atmosphere, progressively increasing concentrations. Even if these concentrations were stabilised immediately, global climate models show that further global warming of about one half degree and an additional 320% sea level rise caused by thermal expansion are inevitable by the end of the twenty-first century.[9] Given that stabilisation is not likely to occur soon, the elaboration and plan-

9. Gerald A. Meehl. et al, 'How Much More Global Warming and Sea Level Rise?', *Science*, vol. 307: 1769-72, 18 March 2005; and T.M.L.Wigley, 'The Climate Change Commitment', *Science*, vol. 307:1766-69, 18 March 2005.

ning of adaptation strategies is essential. Unfortunately, so far, very little has been done to foster international cooperation and to coordinate adaptation policies. Only vague references to adaptation measures appear in the UNFCCC and the Kyoto Protocol. They concern the creation of a Global Environmental Facility (GEF), a fund financed by industrialised nations for the purpose of sponsoring adaptation measures destined to help the least developed countries. Müller shows that only a small fraction of the language in the Marrakech Accords that finalised the interpretation of the Kyoto Protocol is devoted to adaptation.[10] So the history of adaptation, and of the policy measures related to (as opposed to the mitigation of) climate change is very brief.

Since climate change will be with us whether we like it or not, and since it is a global phenomenon, some of the problems it generates must be managed at the international level. The most serious among these are likely to be threats to coastal regions due to sea-level rise and the consequences of new weather patterns for agriculture in developing countries (especially sub-Saharan Africa, Latin America and East Asia). Additional impacts will include extreme weather events and natural catastrophes. In all likelihood, all of these climate-induced changes will generate population movements toward the industrialised North and these will be even more difficult to control than they are now. Policies that maintain agriculture and thus ensure decent revenues to southern hemisphere populations would counteract this trend. Better aid policies are of course also important in this context. However, trade liberalisation, as well as the progressive end of protectionist measures in agriculture in the industrialised North and in the EU, would play an important role in dampening the impact of climate warming.[11] Another effect of the liberalisation of agricultural policies in the EU would certainly be a decrease in the size of European cattle herds, which would lead to a comparable reduction in methane emissions. In this case, liberalisation policies would have both adaptation and mitigation effects, certainly a desirable outcome. It is important, however, to acknowledge the considerable political difficulties associated with such adaptation strategies. Our analysis reveals the obvious linkages between trade, agricultural policies, population movements and various adaptation and mitigation policies to climate change but does not propose ways of confronting the thorny problem of negotiating international trade agreements.

10. Müller, op.cit.

11. See C.Rosenzweig, M.L.Parry, G.Fischer, K.Frohberg, 'Climate Change and World Food Supply', Research Report No. 3, Environmental Change Unit, University of Oxford, 1993.

Conclusions

Climate change is the first truly global environmental problem facing the international community. It is a complex phenomenon that requires not only mitigation but also adaptation policies. Coordinating such policies raises a wide range of problems because, as is always the case, new forms of cooperation at some point clash with various domestic and transnational interests. Given such contradictions, the development of a climate change regime is in and of itself a remarkable achievement. Unfortunately, this regime faces major obstacles because of the refusal by some major countries to participate. It is an illusion to think that these countries will join without some form of concession or incentive to satisfy some of their major domestic industrial and business interests. This will only happen if a major technological breakthrough is suddenly made within objecting countries or if non-participation leads to missed opportunities, thus making the climate change regime appear sufficiently attractive. There are ways of designing the climate change regime and the Kyoto flexible mechanisms in such a way that this outcome materialises. Achieving such a result requires a well-functioning emission reduction market largely involving developing and emerging countries, especially China and India.

Mitigation policies, however, are not the only answer to climate change because some of its effects will be with us in the future no matter what we do now to reduce emissions. Therefore, it is essential to better integrate developing economies in general and their agricultural sectors in particular into the world economy. More coordination among countries of the developed world to manage potentially large population movements must also be undertaken. Only under these conditions will we be able to confront the harmful economic and – more ominously – security consequences of climate change.

Deprivation – Poverty and foreign policy

Marco Zupi

More than at any time in recent decades, the fight against poverty seems to be at the top of the international political agenda. International civil society, academic, business and political communities all share a common commitment to fighting poverty. After a period of relative neglect, even the Millennium Development Goals (MDGs) framework is enjoying a revival, lately even in the US.

Facts and figures on world poverty are numerous and well-known: 1.1 billion people live on less than one dollar a day (absolute poverty), and half of the world's population – some three billion people – lives on less than two dollars a day. The overall GDP of the poorest 49 nations (mainly in Sub-Saharan Africa) is less than the combined wealth of the world's three richest individuals. Also, 1.3 billion people have no access to clean water; 3 billion have no access to sanitation; 2 billion have no access to electricity; nearly a billion people are illiterate. Just 10% of the world's health resources goes to the needs of 90 % of the world's population, and 95% of the 38 million people with AIDS live in developing countries. Children are the most vulnerable category: 1 billion live in poverty (50% worldwide); 640 million live without adequate shelter; 400 million have no access to safe water; 270 million have no access to health services; in 2003, 10.6 million died before they reached the age of 5.[1]

According to the 2005 UN Millennium Project Report,[2] the results of policies for poverty reduction have been mixed so far. Poverty has been reduced mainly in East and South Asia, but it has remained virtually the same in other regions and has in fact worsened in some of them, particularly in Sub-Saharan Africa. This is producing more inequality in world regional development, with Central and Eastern Europe suffering a regression in life expectancy, fertility and other demographic indicators as well as educational and employment conditions.

All these data are very useful to define an appropriate political strategy against poverty, although – as the UN Secretary General,

1. The annual reports published by the World Bank on world development and by the United Nations Development Programme (UNDP) on human development are the main sources.

2. Millennium Project, *Investing in Development: A Practical Plan to Achieve the Millennium Development Goals*, New York: UN, 2005.

Kofi Annan, put it back in 2000 – they mostly fail 'to capture the humiliation, powerlessness and brutal hardship that is the daily lot of the world's poor'. Not only do these numbers – whether measured by income levels, literacy rates, infant mortality rates, or other gauges of personal welfare – fail to capture the concrete meaning of poverty, but they have also been questioned by many who perceive them as misleading, inaccurate and false indicators. More than anything, this criticism reflects a debate on the understanding of poverty and the fact that poverty describes a wide range of circumstances associated with need, hardship and lack of resources. Poverty is a subjective but also a comparative category: it is moral and evaluative as well as scientifically founded.

The multi-D-dimensions of poverty

In general terms, we can start by defining people who live in poverty as those whose wealth (usually understood as income, capital, money, material goods or resources, especially natural resources) is so inadequate as to preclude them from having a standard of living considered acceptable in the society in which they live. Because of that, they may experience multiple disadvantages through unemployment, low income, poor housing, inadequate health care and barriers to lifelong learning, culture, sport and recreation. They are often excluded and marginalised from participating in (economic, social and cultural) activities that are the norm for other people. Their access to fundamental rights may be restricted.

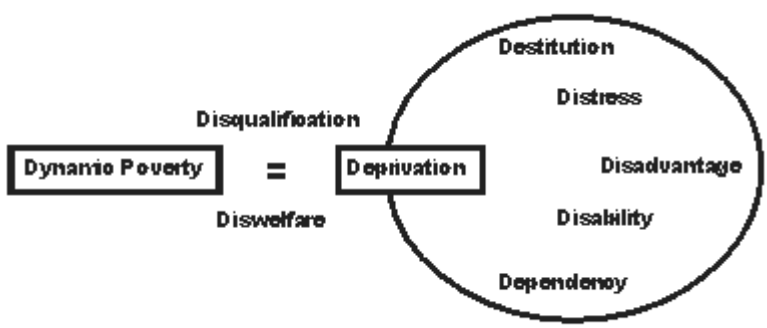
In searching for a shortcut into the literature on poverty, we can accept a broader definition of poverty as a dynamic process rather than a static phenomenon, expressed in terms of pronounced deprivation in wellbeing. The concept of *deprivation* refers to a lack of welfare, often understood in terms of material goods and resources, but also applicable to emotional and psychological factors as recognised by a fair degree of societal consensus. This concept implies a state of observable disadvantage in relation to the local community or the wider society or nation to which a deprived individual, family, household or group belongs.[3] Following Amartya Sen's concepts of capabilities (the basic capacities which enable people to function) and entitlements (the ways in which people command resources), one can describe the web of deprivation as a combination of *destitution* (chronic absence of

3. David Gordon and Paul Spicker (eds.), *The International Glossary on Poverty* (London: Zed Books and CROP, 1999).

resources, due for example to environmental degradation or adverse nature, in which people have no means of overcoming misery arising from a lack of food, shelter, health, and protection), *disability* (impairments as a medical condition and social exclusion, due for example to or worsened by both unsatisfied basic needs and infectious diseases), *distress* (the psychological condition of pain and insecurity, due for example to the consequences of war and disruptions as well as to vulnerability arising from precarious employment), *disadvantage* (lack of command over resources, opportunities and access to distribution of power, due for example to gender discrimination, inequality and political persecution, which reduces the degrees of human freedom and political participation in the life of the community), and *dependency* (the status of claimants, for those who have no other option but to depend on assistance, which reduces self-esteem and the capacity to take free choices). Deprivation results from different combinations of these D-dimensions that are neither necessarily simultaneous nor mutually excluding conditions. These D-dimensions are mutually reinforcing factors, and deprivation is a process generating increased social *disqualification* (accumulation of failures which leads to marginalisation) and *diswelfare* (the opposite of welfare), tracing a trajectory of *disaffiliation* from a condition of economic and social integration. And poverty can trap people in a vicious circle of deprivation and, ultimately, death.

Figure 1:

The multi-D-dimensions of poverty



The idea of poverty as lack of welfare refers to the range of services which are provided to integrate and protect people in a number of conditions, and not only to financial assistance to poor people. As the main objectives of modern welfare States are to reduce poverty and to ensure a more equal distribution of wealth, the concept of poverty is often confused with distribution. In the European Union, poverty is also described in terms of 'economic distance', that is to say inequality. However, distribution alone cannot identify the ability to achieve a decent level of living. As a general rule, a more equal initial distribution will entail that a given rate of growth will be more pro-poor people, but it would be wrong to conclude that poverty and inequality are synonymous.

The dynamic nature of poverty implies its persistence over time. Poverty becomes chronic poverty on the basis of its extended duration, however imprecise this notion may be. However, the chronic (as opposed to transient) poor are people who remain poor for most of their life and who may pass on their poverty to subsequent generations because of their gender, age or social status. This means that another important dimension of poverty is the movement in and out of it.

Despite diversity and local specificity (crucial for political action), there is a striking commonality of experiences across countries and cultures, rural and urban areas, age and gender divides. Following the 2000 World Bank Report, the web of deprivation corresponding to poverty can be expressed in terms of some related dimensions:

- Material well-being: availability of food, clothing, employment, housing and livelihood sources are critical;
- Physical well-being: physical health, strength and appearance are critical as well, as the body is a person's main asset and people are highly vulnerable to becoming weak through sickness, or permanent disability, or death through illness and accident;
- Security: it means peace of mind or confidence in survival, referring not just to livelihood, but also to physical survival, in the context of precarious employment, crime, violence, lack of protection from the police and absence of recourse to justice, natural disasters, and the uncertainties of seasons and climate;
- Freedom of choice and action: the power to control one's life means the power to avoid exploitation and other forms of humiliating treatment so often meted out to the poor by others in society. It also includes the ability to acquire skills, education,

loans, information, services and resources, to live in good places, to withstand sudden and seasonal stress and shocks, and not to slip further into poverty;
- Good social relations, within the family and the community.

Given these interrelated dimensions, poverty is capability deprivation rather than lack of commodities *per se*. Accordingly, the multidimensional nature of poverty combines absolute and relative forms of deprivation, i.e. objective facts, societal perceptions, and self-perceptions. Needs, standards of living, limited command over resources, lack of basic security, lack of entitlements and access to essential items – all these elements define poverty and should shape any poverty reduction-oriented action.

International policies to fight poverty

Historical background

During the 1950s and 1960s, international aid (or Official Development Assistance [ODA]) was presented as part of a foreign policy oriented towards promoting four objectives: a multilateral political process for supporting peace and democracy (through the UN system), a Western and progressively global economic alliance (through the Marshall Plan and trade liberalisation), a military coalition (through NATO), and the development of poor countries (through ODA). Through ODA it was possible to minimise the disruptive effects of decolonisation, while the specific poverty focus of the aid agenda was diluted in and subordinated to the main (geopolitical, military and economic) priorities of foreign policy. From the 1950s to the 1980s, ODA policy had a clear overarching rationale, namely the security/strategic interest to limit Soviet expansion. This strategic concern legitimated ODA policy as part of a foreign policy interested in promoting peace and security, and provided it with a strong mandate.

The prevailing idea at that time was that *development* is equal to growth in GDP per capita, and capital accumulation the key to prosperity. The modern world came about through industrialisation, based on increased saving (domestic and international saving, through ODA and external debt) to be transformed into productive investment through the transfer of Western finance, science

and technology and economic management by governments. Thus, accelerating economic growth was considered the basic engine to overcome poverty. Bilateral agreements and multilateral organisations translated this simple idea into ODA focused on physical investment (machinery, equipment and other intermediate good imports) as well as big infrastructural projects (dams, roads, railways).

Towards a more sophisticated vision

This vision has changed very slowly, while small progress has been made on the global development agenda: poverty has not been eradicated and, indeed, income inequality has increased between (as well as within) the North and the South. Yet, over time, some additional dimensions have been included in the process of capital accumulation. International aid as a financial injection from abroad to support productive investment in physical and infrastructure capital was thus supported by investment in:

- human capital (education, health, research and development as a way to increase skills, improve labour productivity and trigger technological innovations),
- social capital (institutions, social norms of trust and reciprocity among different actors, formal and informal relational goods that may help create a favourable environment),
- knowledge capital (in particular with reference to Information and Communication Technology),
- institutional capital (democratisation, rule of law, war on corruption, decentralisation, capacity development and training), and
- natural capital (sustainable development as a goal and a constraint).

During the last sixty years, international ODA has funded infrastructural projects, social expenditure (especially basic health and education), training activities (with technical assistance), private sector development, good governance and sustainable development projects. No specific instrument or purpose of ODA has been completely supplanted by new instruments and aims. Rather, a proliferation of objectives has emerged as a structural feature of ODA together with a lot of different instruments and different approaches, sometimes representing different visions of development. Clearly this approach has represented a

more flexible and indirect 'pro-poor' strategy, based on a trickle-down effect, rather than a policy directly focused on addressing the needs identified by the web of deprivation. This roughly reflects also the current consensus on the Millennium Development Goals (MDGs).

Also, with regard to the pressure brought by donor governments to induce recipient countries to adopt specific measures (conditionality), there has been a cumulative approach.

- In the 1980s, after (and thanks to the opportunity offered by) the outbreak of the external debt crisis, the International Monetary Fund (IMF) and the World Bank – in accordance with the main Western donor countries – introduced the first generation of conditionality. These rules/guidelines were focused on imposing on recipient governments the adoption of neo-liberal, market-friendly macro-economic policy reforms (stabilisation plans and structural adjustment programmes) and integration in the world economy as the best way to promote growth.
- In the 1990s, after the collapse of the Soviet bloc, the international donors' community introduced a second generation of conditionality. The idea was that a favourable environment for making development effective is a mixture of sound macro-economic policies and complementary political reforms in terms of good governance (in the sense of better public sector management and accountability), rule of law, consolidation of democracy and respect for human rights.
- More recently, the IMF and the World Bank have introduced a third generation of conditionality. For the first time, the so-called Poverty Reduction Strategies (PRS) have inserted a direct poor-oriented conditionality focused on health, education, water and food security that represents the new framework for government lending, ODA and debt relief programmes. This innovation is supposed to reinforce national 'ownership' and accountability, to focus on social sectors and civil society participation, and to attack the causes of the problem rather than its symptoms, rather than limiting policy to providing palliative social safety nets.
- Finally, international ODA is now undergoing a broader redefinition of its role and mandate. It is a fourth generation of conditionality, focused on the war on terrorism, transparency in military expenditure, free access for inspections to defence sites, and global security concerns (including control of migration flows

and illegal trafficking). This is also linked to the increased international focus on post-conflict situations and so-called 'complex emergencies', and translated into a higher percentage of funds for emergencies rather than development proper.

The idea of combining all these forms of conditionality is to induce recipient governments to be committed seriously and in a comprehensive way to growth, democratisation, safety nets and new security as additional components of development. Obviously, this broadens the scope of ODA, with an increasing risk of competing and contradictory objectives and over-proliferation of instruments (infrastructure projects, basic social services, private sector development, institutional capacity building, budget aid).

This creates a paradox: at a time when there is more and more talk of increasing objectives and forms of aid, the overall quantity of aid is declining. Balancing the costs of achieving all these various goals is one of the great challenges that developing countries face today, namely setting a coherent political framework for development. Rich countries are not very helpful in that they selectively use these policies as convenient instruments for national foreign policy, thereby often undermining the credibility of their commitment to fostering development, protecting human rights and promoting democracy. Different treatment for different countries (double standards) and lack of coherence between policies seem to be the rule rather than the exception.

Key questions for the EU

The quantity of aid funds

This is the basic measure of political will to fight poverty. And the European commitment in financial terms is crucial because Europe is the main source for ODA: combined, the EU and its individual member states provided 55.75 % of all ODA in 2003 and 59.02 % in 2004 (preliminary OECD-DAC data).

Despite the fact that since 1969 – through the UN Commission on International Development Report – the international community of donors committed itself to reaching levels of ODA net disbursements equal to 0.7% of their GNP within ten years, on average donors have never been on target for this objective.

The European Council adopted a number of commitments in Barcelona in March 2002, including an intermediary target of an average ratio of 0.39 % GNP by 2006 (up from 0.33% in 2001), with the minimum target of 0.33% for each member State.

In 2004, ODA to developing countries reached US$ 78.6 billion, which represents 0.25 % of the Development Assistance Committee (DAC) members' combined GNI. This is the same level as in 2003, but up from 0.23 % in 2002 and 0.22 % in 2001. This percentage, however, remains far below the level of the 1980s and early 1990s.

The 15 DAC countries that are members of the EU increased their combined ODA by 2.9 % in real terms to US$ 42.9 billion (some 55% of the total). It represents 0.36% of these countries' combined GNI, broadly on track towards the EU target of 0.39% by 2006, although five EU members still need to increase their ODA substantially to reach the minimum country target of 0.33%.[4] The only DAC countries to exceed the target of 0.7% remain Denmark, Luxembourg, the Netherlands, Norway and Sweden. Of these, Sweden aims to achieve 1 % in 2006, Norway in 2006-09, and Luxembourg in the longer term. Four other countries have given a firm date to reach the 0.7% target: Ireland by 2007; Belgium and Finland by 2010; and France is committed to reaching 0.5% by 2007 and 0.7% by 2012. Spain has indicated it may get there by 2012, the United Kingdom by 2013. Thus, among the EU members, only 4 countries have already reached the 0.7% target, others have set timetables, whereas Austria, Germany, Greece, Italy and Portugal are all far off target and have made no commitment to improve their performance.[5] This is an additional paradox: countries continue to commit themselves to achieving the 0.7% target but most of them are still far away and have also introduced new quantitative targets.

In 2004, around one-sixth (16.7%) of the European Union's total current aid budget – US$ 8.6 billion out of 51.5 billion– was managed by the European Commission on behalf of the European Community. All donors' total ODA amounted to US$ 87.3 billion. In absolute terms, aid managed by the European Commission increased by 7.1 % in 2004, strengthening a trend towards more efficient disbursement of resources. These funds come from the Community budget as well as from the European Development Fund (EDF), which provides support to African, Pacific and Caribbean countries within the framework of the Cotonou Agreement. This assistance is global, as it is provided to more than 150 countries, territories or organisations worldwide.

4. Austria (0.24%), Germany (0.28%), Greece (0.23%), Italy (0.15%) and Spain (0.26%).

5. But the German development assistance budget for 2004 rose by 0.4% for the half covered by the Federal Ministry for Economic Co-operation and Development, compared to a 1.1% decline in the overall federal budget.

In November 2004, the Council invited the Commission to draft specific and more ambitious proposals for action, in particular in the areas of Finance for Development, Coherence for Development, and Focus on Africa. On 12 April 2005, the European Commission proposed new individual ODA targets to be reached by 2010 for each member state, making a distinction between old and new ones: the former would increase their ODA to a new individual baseline of 0.51 % GNI (if not already accomplished), the latter would reach 0.17 % GNI. A new collective average target for the Union of 0.56% GNI has to be reached by 2010: if met, it could allow the EU to reach 0.7 % of ODA by 2015. This would position the EU as the world's largest donor by far.

This year the EU agenda, as well as of the UN General Assembly and the G8, plans to explore innovative sources of financing and to examine all suggestions which have been put forward as alternative ways of securing funding for development programmes in addition to the 0.7 % commitment, in particular mechanisms such as the UK Chancellor of the Exchequer Gordon Brown's International Finance Facility (IFF), Global Funds, and various forms of international taxation. Given the recent experience of external debt relief, however, the added value of these funds to ODA is questionable, as the evidence is rather that debt relief and special funds distort spending priorities. Yet political will is much more important than exploring innovative financial mechanisms because, as stressed by Jeffrey Sachs, if all donor countries met the 0.7 % target, the MDGs would be immediately achieved without any need for additional funds. If the US alone reached 0.7 %, it would bring US$ 50 billion more.[6]

The quality of aid funds

More funds and better aid delivery are important means, but they are not sufficient *per se* to allow an effective pro-poor approach to development cooperation. The quality of aid, i.e. its impact on the poor, is a correlated and crucial question.

Recent OECD evaluations confirm that, in terms of quality, ODA's impact on poverty reduction is still limited and lacks focus in operative terms. Resources are scarce and fragmented. The most recent studies on aid effectiveness confirm that the real capacity of the EU Commission and member states to achieve the objective of poverty reduction is questionable, and its efficiency difficult to

6. Jeffrey D. Sachs, *The End of Poverty: Economic Possibilities for Our Time* (New York: Penguin Press, 2005).

assess.[7] The gap between rhetoric and practice is one of its main weaknesses: as Paul Hoebink observed about the findings of three major evaluations of EU programmes (Lomé, MEDA and ALA), the general impact on poverty reduction is feeble, whereas the projects centred on infrastructure and transport are much more successful.

The policy framework of the EC/EU with regard to development cooperation is now much better than that of most member states. Notwithstanding increased pressures to re-nationalise ODA policy (that is to reduce the share of ODA channelled through the EC and multilateral agencies), the impact of the aid provided by member states on the poor is hardly more effective than the Community's: excluding the Nordic countries, the UK and Ireland, most of the other EU countries (especially the Mediterranean and the new ones) perform worse than the EC.

During the second half of the 1990s, poverty reduction became the main focus of the EC and the member countries' ODA policy. The formal focus on poverty reduction is one of the most important legacies of the Prodi Commission, together with the creation of a single implementing agency, EuropeAid, and increased responsibility to local field offices. Yet the quality of aid is negatively affected by the fact that development spending is increasingly squeezed by other budgetary chapters, including within the external relations domain. And there is no visible trend towards greater concentration of aid to the poorest countries: among the top ten recipients of financial assistance from the EC, there is no Sub-Saharan country nor any Least Developed Country. The need for peace and stability in the neighbouring areas of the Middle East and the Balkans determines the new priorities of EU foreign policy. This is fair enough and, above all, politically understandable, but it clashes with the official rhetoric on aid and contradicts policy commitments subscribed by all. The little improvement in quantitative terms is mainly due to debt relief and assistance to trouble spots and emergency aid.

The EC does meet the 35% target for social sector spending set by the European Parliament: this figure includes the total amount of EC budget support, even though, at this stage, it is too early to predict the impact of budget support for basic social services. Moreover, only 2.3% of social sector spending in the 2003 EDF budget was allocated to basic education and 5.2% to basic health.[8] In other words, the EC and the EU member states have a serious

7. Paul Hoebink and Olav Stokke (eds.), *Perspectives on European Development Co-operation* (London: Routledge, July 2005).

8. European Parliament Committee on Development, *Draft Report of a Motion for a European Parliament Resolution on the role of the European Union in the achievement of the Millennium Development*, Brussels, 2005.

problem with translating their declared strategic focus on poverty reduction into concrete and coherent practice.

According to the European Commission and Council Joint Statement on Development Policy of November 2000, in fact, the EC centres its assistance on poverty reduction on six key areas:

1. the link between trade and development;
2. regional integration and cooperation;
3. support for macroeconomic policies and equitable access to social services;
4. transport as essential to improving access to health, education, water and food;
5. food security and sustainable rural development;
6. institutional capacity building, in particular good governance and the rule of law.

These key areas are linked to some further crosscutting issues such as the promotion of human rights and conflict prevention, and special emphasis is placed on the link between governance, peace and security, and development. This strategy clearly reflects the process of conditionality accumulation mentioned in the previous chapter. The EU also takes the line of adopting selective criteria by targeting its support to 'good performers', but it acknowledges the importance of finding alternative (though undefined) entry points and approaches to cooperation with the population in less performing countries (including 'dysfunctional' and 'failed' states) for reasons of solidarity, security, and long-term aid effectiveness. The EC considers that the main role of development cooperation in relation to conflict prevention and crisis management is to strengthen structural democratic stability. Yet not all conditionality is necessarily oriented to serve the interests of the poor.

An additional problem is that, as long as aid levels remain well below what is needed to make a real difference, there is an inevitable competition among programmes, issues, actors, instruments, and approaches. The 2002 OECD review of EC aid policy stressed the 'lack of an overall Community strategy and the fact that the objectives of Community development policy are too numerous, too vague and not ranked in any way'.[9] With the overlapping and competition between different objectives and agendas, the Union faces a number of specific problems, further exacerbated by the frequently competing priorities of its 25 member states. Moreover, as

9. Development Assistance Committee (OECD/DAC), *The European Community (EC) Peer Review*, Paris, 2002.

the member states often have separate foreign and commercial interests, donor competition becomes unavoidable. Substantial diversity persists because EU countries are responsible for bilateral policy implementation. In other words, there are still 15 (counting only the EU DAC members) or 25 + 1 ODA policies, and the concept of the '3 Cs' (coordination, complementarity, coherence) is still far from being implemented. And if any single form of conditionality is likely to take priority, it could well be a narrow vision of security that could eventually do more harm than good to the real poor.

Conclusions

The future of EU ODA must focus on the best possible division of labour among the member states and the Commission in tackling the web of deprivation. It is important to identify the specific added value of each and every actor and concentrate on making a difference in areas (of deprivation) where individual actors have a comparative advantage or where they can fill existing gaps and catalyse the actions of other partners. This implies that donors focus on providing assistance where it can add most value, given what others are doing: sharing information about sector priorities and intervention in a partner country is a first step to reaching such coordination. Improved coordination among the member states and the EC can ideally lead towards better complementarity and better coherence. And the Country Strategy Papers (CSP) can become a central mechanism for strengthening policy coherence with other Community policies and co-ordination with the member states, while recognising that the ultimate responsibility for development must remain in the hands of the developing countries themselves. Better coordination means using aid more effectively, by reducing transaction and administrative costs and by avoiding unnecessary duplication of funding between individual member states as well as between them and Community-managed aid.

Yet the main question is what priority to give to the poor and poverty in the ODA policy. In fact, multiplicity of donor objectives (often not well defined) facilitates the pursuit of non-development objectives. Presently, the EC's interest in allocating aid to Mediterranean and European neighbours, the set-up of trade agreements and justice and home affairs (including migration) deals confirm this. Rather, or perhaps also, the five D-dimensions

of deprivation (destitution, distress, disadvantage, disability, dependence) should be adopted as the main criteria to evaluate the poor-oriented efficiency of aid allocation and to guide programmes' evaluations. The EC's evaluation methodology for an ODA programme is always focused on relevance, efficiency, effectiveness, impact, and sustainability. A more explicit reference to the poor-oriented efficiency could drive both the micro- and macro-dimensions and the perspective of aid to support the fight against poverty.

The main implication is the need to increase allocation of ODA to the real poor, and to work towards more focused resource allocation criteria. While it is possible to adopt a 'growthist' approach, focused on aid contribution to capital accumulation through traditional ODA instruments, it should be based on poor-oriented efficiency as the main criterion for focusing limited financial resources on such programmes. Actually, the best way to promote growth is through other EU policies than ODA (trade, foreign direct investment, external debt reduction, even the Union's internal Common Agricultural Policy [CAP] and fisheries policy), and also by reformulating the IMF, World Bank and WTO prescriptions where needed.

It should also be possible to test the validity of innovative approaches, starting with the principle of territorial partnership. This could help appreciate the importance of local contexts by factoring in the transnational nature of many problems and related solutions and taking into account the nature of globalisation. This, in turn, could lead to a reconsideration of the geographical dimension of ODA interventions: in view of the scale of trans-frontier human mobility (linked to formal and informal economic chains) as well as the prevailing trans-boundary dimension of environments (as shown in the Western African and Sahelian cases), a more appropriate approach should arguably be focused on regional and sub-regional rather than purely national governance. Finally, EU and national aid and commercial policies must be not only coherent but also consistent with the principle of promoting poor-oriented efficiency. To this end, all ODA policies should also be more focused on specific measurable objectives with a time horizon and appropriate entry points for each and every actor, based on their competitive advantage.

Diseases – AIDS and other pandemics

Stefan Elbe

'AIDS is now one of the most devastating pandemics in human history and contributes to the breakdown of societies. New diseases can spread rapidly and become global threats.'

European Security Strategy (December 2003)

The global challenge of infectious diseases is shaping the European Union's security environment in increasingly profound ways. Emerging and re-emerging infectious diseases are not only public health and development issues, as has long been recognised, but also have important security dimensions that need to be addressed by the European Union and its member states. If the unnecessary and premature loss of life is arguably man's greatest persistent insecurity, then in many parts of the world the most pervasive security threat is clearly no longer that of armed conflict, but that of disease. Beyond their obvious human security implications, however, infectious diseases are also beginning to interact in subtle but powerful ways with more traditional security concerns revolving around the maintenance of order and the management of armed force in international politics. This is true not only of longer-standing diseases such as HIV/AIDS, malaria, and tuberculosis, but also of destabilising new infectious diseases that can emerge unexpectedly at any time wreaking global havoc, as was the case with the transmission of Avian flu to the human population in 1997, and with the historically unprecedented outbreak of SARS (Severe Acute Respiratory Syndrome) that occurred in 2002-2003. In the United States the seriousness of the global infectious disease threat is increasingly well understood as researchers have already been highlighting the security implications of emerging and re-emerging infectious diseases for more than a decade. In Europe, by contrast, these linkages remain only poorly understood at present – making it all the more commendable that the European Security Strategy should have finally drawn explicit attention to the global security challenge posed by disease. It is consequently the task of this chapter to explore and illustrate these security challenges in greater detail. The chapter then goes on to review current EU policy relating to more established global diseases such as HIV/AIDS, malaria and tuberculo-

sis, as well as probing how the EU has sought to respond to the more recent outbreaks of SARS and Avian flu. The chapter concludes by considering some multilateral policy-responses designed specifically to address the evolving security dimensions of these diseases. The successful implementation of these policies would have the double benefit of further enhancing the European Union's Security Strategy (ESS) while simultaneously contributing to a reduction in the global burden of disease.

The disease-security nexus

What are the linkages between infectious diseases and security? At least three can be identified. First, infectious diseases can weaken communities, states and regions when a high percentage of the population is directly affected by, or is pervasively fearful of acquiring, an infectious illness. The contemporary magnitude and gravity of some widespread diseases already confers upon them a social, economic, and political significance outweighing those of many armed conflicts. Second, some infectious diseases, such as HIV/AIDS, also have a disproportionately high impact on the armed forces. In many of the world's military and police forces more servicemen routinely die of disease than as a result of combat wounds, raising important longer-term questions about combat effectiveness and national security. Third, armed conflicts can also serve as an important vector of disease, creating harmful synergies between the outbreak of armed conflict and the spread of infectious diseases that need to be acknowledged as the European Union steps up its involvement in overseas conflicts and humanitarian crises. It is worth exploring these three linkages in greater detail.

Infectious diseases and state stability

Widespread and entrenched diseases such as HIV/AIDS, malaria and tuberculosis act as chronic stressors on state capacity in countries where they are endemic. Collectively, these three diseases alone account for more than six million annual deaths. Malaria causes in excess of 300 million acute illnesses and one million deaths annually, of which 90% occur in Africa. Tuberculosis, which is now re-emerging in multi-drug resistant form, is responsible for a further

two million annual deaths worldwide – the vast majority of them in the 15-50 year-old age group. Tuberculosis is now also the leading cause of death amongst those infected with HIV. Although in many countries it is therefore difficult to disaggregate deaths caused by AIDS from those caused by tuberculosis, it is estimated by UNAIDS that a further three million people die annually of AIDS-related illnesses, while five million people continue to become newly infected with the virus every year. These deaths do not just have tragic humanitarian implications for the individuals and families affected, but collectively also have much wider economic, political and social ramifications that need to be addressed. In the light of the European Security Strategy's finding that 'state failure is an alarming phenomenon, that undermines global governance, and adds to regional instability' (p.4), the longer-term impact of this disease burden on the political stability of weak states is of particular concern.

Research into processes of state failure indicates that states usually become unstable and collapse as a result of a combination of an economic downturn, the dissolution of political institutions, and the collapse of a wide array of social institutions such as the family, the education system, and the health care sector. Unfortunately, a high disease burden accelerates all three of these processes simultaneously. Economically, the growing burden of disease is likely to lead to increased domestic competition for scarce resources because of the increased costs associated with trying to meet these illnesses in both the civilian and military sectors. The World Health Organization (WHO) estimates that in Africa malaria is already shaving US$ 12 billion off GDP annually – even though it could be treated for a fraction of this cost. The global AIDS pandemic too has important economic ramifications at the individual, household, and macro-economic levels because it affects the economically most productive demographic group, because it discourages private as well as foreign investment, and because it causes mortality amongst the senior management and highly trained business workforce. Nor will it be easy to offset these costs in the case of HIV/AIDS without a combined increase in foreign aid and reduction in the prices of medicines; in many developing countries, after all, the AIDS pandemic is being fuelled by some of the most profitable forms of economic activity such as mineral extraction (e.g. miners) and the transport of goods over long distances (e.g. truckers).

The economic costs associated with infectious diseases must also be of concern to European countries. Although the latter have been spared the high economic burden associated with many of the diseases prevalent in the developing world, new infectious diseases such as SARS and Avian flu can similarly wreak havoc on the global economy and international politics due to the widespread fear and panic they induce. Before being contained, SARS was able to spread to roughly 8,000 people in 29 countries, including European countries such as France, Germany, Ireland, Italy, Romania, Spain, Sweden, Switzerland, and the United Kingdom. In the European Union a total of 33 persons became infected, of whom all but one recovered. The next time the European Union may not be so lucky however. Indeed, the experience of SARS in East Asia, where the bulk of mortality occurred, serves as an important reminder of the ability of disease to disrupt economic activity with concomitantly wider consequences for all participants in the global economy. Estimates of the world-wide economic cost of the outbreak to the global economy range between US$ 10-30 billion. The World Bank has calculated that SARS will cost the Asian economies alone around US$15 billion. This is because of the negative impact of cancelled trips on demand for tourism and tourism-related industries; because of the slackening demand for products and services as people shun public places fearful of acquiring an infection, because of the increased costs associated with having to respond to the disease, and because of the generally decreased confidence in the region that results from the impossibility of predicting if and when another disruptive SARS episode might occur. Similar economic costs are thought to be associated with Avian flu. Although systematic and official estimates are still lacking in this regard, business analysts believe that Avian flu will cost the Asian economies a further US$ 8-12 billion. These kinds of economic disruptions filter back to Europe not only because of the decreased growth in the global economy, but also because, in an age of globalisation, the outbreak of infectious diseases can have an unexpected impact far away from their epicentre. In the United States, for example, in the aftermath of the SARS outbreak many Americans began to avoid Chinese restaurants due to irrational fears that they might become infected there, affecting demand for services within the US economy as well.

Beyond their economic impact, infectious diseases can also stress the political and social fabric of the worst affected states.

Although SARS and Avian flu have not yet reached comparable levels, longer-standing diseases such as tuberculosis, malaria, and HIV/AIDS can already be seen to have such wider political and social effects. Again the case of HIV/AIDS is particularly disconcerting, if not uniquely so. In sub-Saharan Africa HIV prevalence amongst the adult civilian population is already estimated by UNAIDS to be extremely high in Botswana (37.3%), Swaziland (38.8%), Lesotho (28.9%), Zimbabwe (24.6%), and South Africa (21.5%). In these countries, as in many others, AIDS-related illnesses are causing the premature death of civil servants, of economic and scientific experts, of members of the police forces, the armed forces, lawyers, and even of government ministers – making it more difficult for states to govern themselves effectively. In conjunction with malaria and tuberculosis, HIV/AIDS is also generating millions of orphans who lack a proper education, who are becoming alienated from society, and who will either have to draw heavily on state resources for many decades or who may turn to criminal gangs and armed bands in order to satisfy their material and psychological needs. A large proportion of these orphans are already exiting the education system prematurely, as these systems themselves struggle with the high numbers of teachers who are ill and who are dying – in some countries at rates exceeding their ability to replace them. Because of this additional stress on the social, economic and political fabric of states, increasing efforts to address infectious diseases in general, and HIV/AIDS in particular, are not only necessary to meet the European Union's health and development objectives, but also its desire to strengthen global security. This is especially pressing given the current and rapid spread of HIV/AIDS and tuberculosis in many other strategically significant areas such as Russia, China, and India, and indeed increasingly along Europe's eastern borders.

Infectious diseases and armed forces

Some infectious diseases also have a direct impact on the armed forces – raising yet further security concerns. The famous twentieth century bacteriologist Hans Zinsser once argued that throughout history soldiers have in fact only rarely won wars: 'they more often mop up after the barrage of epidemics. And typhus, with its brothers and sisters – plague, cholera, typhoid,

dysentery – has decided more campaigns than Caesar, Hannibal, Napoleon, and all the inspector generals of history. The epidemics get the blame for defeat, the generals the credit for victory.'[1] Not everyone would be willing to go quite this far, but some diseases continue to have an important effect on armed forces around the world today. Western militaries continue to struggle when deployments are made to areas where malaria is prevalent. As recently as 2003 more than a third of US troops (80 out of 200) contracted malaria while supporting a peacekeeping mission in Liberia. According to Stephen L. Hoffman, director of the malaria programme at the US Naval Medical Research Institute, 'in every [US] military campaign this century we lost more casualties to malaria than bullets.'[2] Tuberculosis, too, continues to be a serious problem for some of the world's armed forces. Whilst fighting communist guerrillas and Islamist militants, the Philippine army had to contend with around 800 cases of tuberculosis in 2003, and more than 200 additional cases in the first half of 2004.[3] There are important lessons here to be learned for Europe's armed forces in terms of potential future deployments into areas where infectious diseases are rife.

For many countries in sub-Saharan Africa, in turn, concern revolves primarily around the corrosive effects of HIV/AIDS on their armed forces. In these countries the armed forces are not a marginal but a central group within the AIDS pandemic.[4] The US National Intelligence Council believes HIV prevalence in selected military populations in sub-Saharan Africa to be as follows: Angola 40-60 percent, Congo-Brazzaville 10-25 percent, Ivory Coast 10-20 percent, Democratic Republic of Congo 40-60 percent, Eritrea 10 percent, Nigeria 10-20 percent, and Tanzania 15-30 percent.[5] There are a variety of factors that can expose military populations to higher levels of HIV prevalence, including the fact that soldiers are of a sexually active age, that they are mobile and stationed away from home for long periods of time, that they often valorise violent and risky behaviour, that they have opportunities for casual sexual relations, that they seek to relieve themselves from the stress of combat, and because other sexually transmitted diseases increase the chance of HIV transmission during unprotected sexual intercourse.

These high prevalence rates are already having an impact in at least four areas that are important to the efficient operation of the armed forces. First, they are generating a need for additional

1. Hans Zinsser, *Rats, Lice and History* (London: Routledge, 1937), p. 153.

2. Douglas J. Gillert, 'Malaria: Military Enemy No. 1', http://www.defenselink.mil/news/Jul1996/n07301996_9607305.html

3. 'Philippines Says Tuberculosis Cases Hit the Army', Reuters, 2 September 2004.

4. UNAIDS, *AIDS and the Military* (Geneva: 1998), 2.

5. National Intelligence Council, *National Intelligence Estimate: The Global Infectious Disease Threat and Its Implications for the United States*, Washington, D.C.: January 2000, p. 34.

resources to train and recruit new soldiers to replace sick ones, ones who have died, or ones who are expected to die in the near future. More resources will also be needed for looking after those members of the armed forces who are ill or in the process of dying. Second, these high prevalence rates are affecting staffing issues in the armed forces. High HIV prevalence rates eventually lead to a decrease in the available civilian conscription pool to draw upon for new recruits, lead to deaths among the more senior and experienced officers at higher levels of the chain of command, and can lead to a loss of highly specialised and technically trained staff that can be replaced neither easily nor quickly. Third, although persons living with HIV can usually carry out normal duties, AIDS has implications for the ability of daily military tasks to be carried out efficiently by leading to an increased absenteeism and to lower levels of morale as healthy soldiers have to deal with increased workloads until sick ones are replaced, and have to watch fellow soldiers die a painful death. Fears of attending to injured soldiers in the light of the possibility of becoming infected with the lethal illness, and the question of how to secure the blood supply during military operations, are similarly becoming concerns for the efficient execution of deployments. The global burden of diseases is thus not only taking its toll on the macro-economic and political stability of some states, but in the case of diseases such as HIV/AIDS, also filters through all the way to the front line level of the armed and police forces – giving these diseases a second important security dimension.

Infectious diseases and conflict

Widespread infectious diseases do not just create novel insecurities of their own: more traditional insecurities – such as those posed by the outbreak of armed conflict – also tend to exacerbate the spread of infectious diseases. Armed conflicts inhibit the ability of individuals and communities to fight the spread of other diseases. Violent conflicts place strain on medical facilities that are usually scarcely equipped in the first place, and thus inhibit the delivery of preventative and acute care in relation to malaria, tuberculosis and HIV/AIDS. Those facilities that remain operational during conflicts frequently lack vital resources such as clean water, trained staff and medicines, as well as basic medical equipment. Such health and medical centres have even been singled out and targeted

in recent conflicts as a way of demoralising the civilian population and in order to loot whatever resources remain within these facilities. According to the World Health Organization, thirty percent of malaria deaths now occur in countries ravaged by armed conflicts or natural disasters because, as David Alnwick explains, 'during a war or a major conflict, malaria control measures break down, there is less spraying, health facilities do not work, there is rupture of stocks for drugs and all this brings an increase in malaria transmission and an increase in the number of deaths.'[6] On a deeper level, moreover, the immediate and acute dangers posed by armed conflict also tend to divert attention and resources away from dealing with disease. Although both armed conflicts and diseases can be lethal, the need to deal with the former is often given priority at the expense of managing diseases, trapping some affected countries in a dangerous cycle of conflict and disease.

What is more, sexually transmitted infectious diseases such as HIV/AIDS can also be spread during armed conflicts because of the widespread use of rape. In the age of AIDS, such practices are not only physically and psychologically traumatic for the victims; they are potentially lethal – not least because the violent nature of the act further facilitates HIV transmission. UNAIDS has seen reports by rape victims that HIV/AIDS was deliberately used as a weapon of war against women. Such reports are further corroborated by the fact that the HIV prevalence rate amongst women surviving these rapes is high, with two-thirds of a sample of Rwandan genocide widows testing HIV positive. Following the transition to democracy in South Africa, moreover, it also emerged that the Apartheid regime had explored the possibility of actually using HIV as a biological agent. In the contemporary global security environment, this points to a wider vulnerability of Europe and the West to the possible weaponisation of other infectious agents by terrorist groups. Some intelligence agencies, for example, have begun to raise concerns that terrorists might seek to weaponise Avian flu, so as to induce a global pandemic similar in scale to the massive Spanish Influenza pandemic of 1918-1919. In order to stem all of these aforementioned security implications, disease prevention efforts must henceforth be mainstreamed much more closely into the European Union's conflict prevention, conflict resolution, and post-conflict planning strategies.

6. 'Malaria, a Parasite Laughing at Cheap Drugs', UNSPECIAL No 605–MARCH 2002, http://www.unspecial.org/uns605/UNS_605_F_T13.html

The EU response

Although the European Union has been active in the area of disease response for some years, it has hitherto sought to deal with these diseases primarily as public health and/or development issues. Consequently it has not yet adequately responded to their security dimensions. Within the context of public health, for example, the European Commission has managed an *ad hoc* Communicable Disease Network since 1999. Prompted by the global reverberations of the SARS outbreak and the recurring Avian flu epidemics, in spring 2004 the Council and the European Parliament created a European Centre for Disease Prevention and Control. The main tasks of this centre will be in the areas of epidemiological surveillance, early warning and response, gathering scientific opinion on public health issues, and providing technical assistance in cases of the outbreak of diseases, including potential assistance to non-EU countries. These efforts are also important in the light of other communicable diseases such as SARS, Avian flu, and the West Nile virus that have not caused as many worldwide deaths as HIV/AIDS, malaria and tuberculosis, but that can instil a sense of widespread social panic and could break out in the European Union in the years ahead. These measures are aimed primarily at containing outbreaks of communicable diseases *within* the European Union.

Within this context of public health the European Union has also been paying particularly close attention to HIV/AIDS. The fastest growth rates of this disease are no longer to be found in Africa, Asia or the Caribbean, but on the eastern borders of the European Union – in Eastern Europe and Central Asia. In February 2004 the Irish Presidency of the EU responded to this development by hosting the Dublin Ministerial Conference 'Breaking the barriers – Partnership to fight HIV/AIDS in Europe and Central Asia', in order to highlight the worsening situation and to illustrate that HIV/AIDS is also a European issue. This culminated, on 24 February 2004, in the 'Dublin Declaration on Partnership to fight HIV/AIDS in Europe and Central Asia', which committed itself to increasing leadership on the issue of HIV/AIDS, enhancing European-wide prevention measures, and co-operating with other national and international bodies, civil society and industry in these efforts to address HIV/AIDS. Subsequently these goals were made more concrete by the European Commission's adoption, on

17 September 2004, of the Vilnius Declaration on 'Measures to Strengthen Responses to HIV/AIDS in the European Union and in Neighbouring Countries.' These measures include the following: (i) to raise public awareness and prevent people being infected with HIV; (ii) to ensure access to affordable anti-retroviral medicines for people living with HIV, (iii) to reinforce the epidemiological surveillance of HIV/AIDS, and (iv) to involve civil society groups in the strategy. Additional work is also being undertaken to co-ordinate a package of national information campaigns in 2005 to raise awareness of HIV/AIDS amongst young Europeans. A separate, related step in this area was the adoption of a directive laying down EU-wide standards for the quality and safety of human blood and blood components. These activities, too, are aimed primarily at managing the spread of infectious diseases *within* the European Union and its neighbouring states.

The European Union has simultaneously been trying to respond to the impact of widespread diseases *outside* its borders. A more externally oriented strand of policy regarding HIV/AIDS, malaria and tuberculosis has thus emerged within the context of the European Union's world-wide development assistance. The EU's development response to these diseases gained a significant public profile through a round table organised by the Commission in September 2000 which culminated, in February 2001, in the 'Accelerated action on HIV/AIDS, malaria and TB in the context of poverty reduction' programme, which called for a coherent EU response to these diseases. The European Commission correctly identified the close relationship between poor health and poverty in its 'Health and Poverty' Communication adopted in March 2002. This was reaffirmed in the Council Resolution on 'Health and Poverty' subsequently adopted on 30 May 2002. The main objectives of this policy are: to improve health, AIDS and population outcomes at country level, especially among the poorest countries; to maximise health benefits and minimise potential negative health effects of EC support for other sectors; to protect the most vulnerable from poverty through support for equitable and fair health financing mechanisms; and to invest in the development of specific global public goods. In its February 2003 *Update on the Programme of Action*, the Commission noted that some progress had been made, but that in other areas progress was less visible due to lack of appropriate resources within the Commission and the member states. By the end of 2004, the European Commission

laudably stepped up its development efforts to address HIV/AIDS, malaria, and tuberculosis by increasing the level of funding available for the action programme to €1.1 billion for the period 2003-2006. To the same end, the European Union has also made substantial contributions to the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFFATM), launched in 2002. The EU (the European Commission and the 25 Member States) is the largest donor in the Global Fund, having collectively pledged 55% of total donations to the Global Fund (€ 2.8 billion) up until 2007.

Additional dimensions of existing EU policy on HIV/AIDS, malaria and tuberculosis can be found in the areas of international trade and research development. Here the EU has sought to support tiered pricing for some essential pharmaceutical products in the developing world. The European Union adopted Council Regulation (EC) No 953/2003, the aim of which was to create assurances to the pharmaceutical industry that tiered-priced medicines could not be diverted to the EU and thus undermine markets there. The Commission has also been trying to reduce (and in some instances eliminate) taxes, tariffs, and fees for importing and distributing medicines, as well as agreeing to a compromise on intellectual property rights at Doha in August 2003. On the research side, the European Community Framework Programme for Research, Technological Development and Demonstration (FP6) has devoted some of its resources to the 'Sixth Framework Programme on Poverty-Related Diseases: HIV/AIDS, Malaria & Tuberculosis.' Funding for research and development on these three diseases has increased from €109 million (1998-2002) to more than €400 million (2002-2006), which is allocated for undertaking further research into these illnesses and designing new interventions. Projects funded in this area have sought to reduce the length of standard treatment of tuberculosis to less than sixth months and to develop new tuberculosis and HIV vaccines, as well as new malaria drugs. Despite these important policy advances, however, the security dimensions of these infectious diseases have yet to be properly addressed by the European Union in policy terms.

Possible future directions

The overlooked linkages between disease and security present a genuine opportunity to expand and enhance the European Secu-

rity Strategy (ESS) in a way that would specifically address the evolving security dimensions of global diseases such as HIV/AIDS, malaria tuberculosis, SARS and Avian flu. As for the latter two diseases, because of their highly infectious nature and the speed with which they are capable of spreading, it is absolutely crucial that the European Union continue its efforts in terms of the European Centre for Disease Prevention and Control. These efforts will need to be strengthened and properly resourced in the years ahead. Historically, after all, the flu has proved capable of infecting up to a third of the world's population, as was the case with the Spanish Influenza of 1918-1919. In the interest of preventing a similar occurrence in the twenty-first century, it will be necessary to tighten multilateral cooperation on infectious disease surveillance, reporting mechanisms, and responses.

In terms of the diseases that predominate in the developing world, addressing this global disease burden would entail the European Union and its member states coordinating their efforts along three lines. First, in order to address the longer-term destabilising effects of these diseases in weak states, existing 'development' policies need to be drastically scaled up in terms of resources. These programmes need, and deserve to be, resourced better because they not only contribute to development, but also to global stability and security. 'We should,' the European Security Strategy (p.7) notes quite rightly, 'be ready to act before a crisis occurs. Conflict prevention and threat prevention cannot start too early.' In accordance with this precautionary principle, it is necessary to undertake immediate efforts to minimise the destabilising tendencies of these diseases before it becomes too late. Yet this can only be achieved by addressing the root causes of epidemics that are located in a broad set of economic, political and structural conditions. Tangible improvement here would include increasing funding for the Global Fund, especially in a way that is not done at the expense of existing funds from the European Development Fund (EDF). With respect to medicines, the European Union should also seek to further reduce the highest prices that can be charged under regulation EC953/2003 as well as expanding the list of eligible countries. It should also increase funding for research into vaccines and medicines for HIV/AIDS, malaria and tuberculosis. Regarding its conflict prevention efforts, the European Union should include an assessment of levels of HIV, malaria and tuberculosis prevalence amongst civilian and military populations in the European Com-

mission's *Check List for Root Causes of Conflict*. Finally, the EU also needs to mainstream health considerations across all policy-areas that interact with disease, ranging from development and trade, through to public health and research. Here the European Union can play an important leadership role in co-ordinating and strengthening the policies of existing member states, and act as a bridge to other international institutions such as the World Health Organization, the United Nations, and the Global Fund to Fight AIDS, Tuberculosis and Malaria. The EU may even wish to create a special representative or ambassador to oversee this process taking place across different departments. To reiterate, the justification for such increased levels of activity and funding is that these policies do not only make an important humanitarian contribution to development, but also to state and regional stability and thus ultimately to global security.

Secondly, regarding the narrower impact of these diseases on the armed forces there is additional scope for augmenting EU policy within the context of the European Security Strategy. One observer notes in relation to HIV/AIDS that 'it is not quite clear how military action can help stop the Acquired Immuno-Deficiency Syndrome (AIDS) epidemic that is sweeping Africa and other parts of the world.'[7] On one level this is undoubtedly true. There cannot be a military solution to the global spread of diseases such as HIV/AIDS, malaria or tuberculosis. Moreover, there would also be immense political and human rights concerns with having the military sector alone take charge of the formulation and execution of the global response to these infectious diseases. Yet the reverse argument would similarly not seem convincing. In the light of the impact of these diseases on the armed forces, international efforts that exclude the security sector are unlikely to prove successful in the long run. The security sector will thus have to play a responsible role in this wider effort. To this end the European security sector should be encouraged to ensure adequate medical provision regarding these illnesses for the armed forces in the case that they be deployed on missions in areas where these illnesses are prevalent. Where this has not already been done, awareness and treatment of these diseases need to be mainstreamed into the military practices of member states. Europe's armed forces should therefore implement and re-evaluate education programmes for members of the armed services, and make sure that necessary medicines are available and taken accordingly. Finally, the European

7. James J. Wirtz, 'A New Agenda for Security and Strategy,' in J.Baylis et al. (eds.), *Strategy in the Contemporary World: An Introduction to Strategic Studies*,(Oxford: Oxford UP, 2002), p. 311.

armed forces with advanced medical infrastructure should also be encouraged to conduct further research for viable and affordable vaccines. Where many commercially oriented pharmaceutical companies have shied away from research into diseases affecting the developing world, the armed forces have a clear self-interest in developing medicines for these illnesses given that they may, at some future point in time, be deployed into areas where these diseases are prevalent.

Regarding HIV/AIDS in particular, the armed forces of EU members states which have not already done so should also (i) make voluntary and fully confidential testing for HIV available on a widespread basis, including counselling both before and after the test: this has proved more effective in terms of altering unsafe sexual behaviour than compulsory testing, and also reduces the risks associated with false negative test results; (ii) make condoms of adequate standard widely and cheaply available within the armed forces and encourage responsible sexual behaviour as part of the military ethos; (iii) implement just and humane procedures for those dealing with members of the armed forces who become ill; (iv) re-evaluate which military practices expose soldiers to particularly high risk with regard to HIV transmission and make amendments where possible; and (v) ensure the safety of the blood supply. Armed forces will have to deal with these matters with due consideration of the human rights of individual soldiers, and with a concern for the human dimension of the illness. Human beings living with these diseases are not the enemy in the quest to address this issue, but will play a key part in terms of making future improvements. Consequently, they must also be included rather than excluded from these processes. As the European Union and its member states become increasingly involved in out-of-area missions, they will also need to mainstream HIV/AIDS planning in its peace-keeping and peace support operations, as well as its Rapid Reaction Mechanism. HIV/AIDS awareness and training needs to form a central part of such activities, through, for example, distributing AIDS awareness cards amongst military personnel, and raising awareness of HIV/AIDS both amongst the armed forces that are deployed, as well as, where possible, amongst the armed forces of the countries to which they are deployed. These measures are necessary to reduce the impact of these diseases on the armed forces, and to make sure members of the armed forces do not succumb to these illnesses or transmit them to spouses upon their return.

Finally, in relation to the link between infectious diseases and armed conflict, the European Union and its member states should also become more active. Here the European Union urgently needs to mainstream disease considerations into its international aid programmes. Specific measures to be undertaken include (i) mainstreaming disease prevention and care policies into humanitarian response operations, crisis management, peace support operations and post-conflict reconstruction planning and implementation; (ii) pressing for the implementation of EU commitments made to address HIV/AIDS as a cross-cutting issue in conflict prevention; (iii) developing HIV/AIDS awareness and guidelines for personnel involved in EU humanitarian response, peacekeeping, peace support operations and wider demobilisation and security sector reform strategies; and (iv) ensuring that throughout all HIV/AIDS planning, programming, and personnel training in conflict-prone zones, the gender dimensions of HIV/AIDS transmission and response are integrated. The European Commission's Humanitarian Aid Office (ECHO) similarly needs to continue its efforts on developing guidelines and practices regarding HIV/AIDS in aid operations in order for it to fulfil its broader mandate of protecting human lives as stated in Council Regulation (EC) No 1257/96.

Conclusions

These linkages between disease and security, in the end, do not so much require Europe to learn a new lesson, as they demand of it to recall a much older one. Historically Europeans were well aware that throughout history diseases frequently posed a much greater security challenge than armed conflicts – not least because of their historical experience of the bubonic plague or 'Black Death'. It was the First World War that prompted a profound change in Europe's threat perceptions, as the even greater threat posed by large-scale industrial warfare began to supersede the perceived relevance of widespread diseases. By the time of the Second World War there was no doubt left amongst Europeans that the greatest threat to human existence resided in the outbreak of industrial and even nuclear war. Securing the enduring existence of mankind in the world depended quite literally on averting an armed conflict between the two superpowers. Henceforth, security revolved

around achieving a better understanding of the dynamics of large-scale warfare and nuclear deterrence.

Today, many European security experts and policy-makers remain heavily influenced by this twentieth-century conception of security. While this is understandable, it also makes it more difficult for them to entertain the possibility that widespread illnesses might acquire renewed security significance in the years ahead. Outside the European Union, by contrast, this relationship between disease and security is much more evident, as infectious diseases quietly continue to take their daily toll. Even within Europe, moreover, the recent experiences with SARS and Avian flu provide ample evidence of the perils of remaining inactive on the disease front. For Clausewitz, who influenced so many twentieth-century strategists, war had famously revealed itself to be the continuation of politics by other means. In the light of the tragic humanitarian implications of these infectious diseases and the millions of lives wagered, it might be tempting to reverse this dictum and to suggest that the conduct of international politics is increasingly revealing itself to be the continuation of a silent war by other means. Perhaps this will only be remedied in the twenty-first century if strategy itself becomes, at least in part, the continuation of medicine by other means. Only time will tell whether the European Security Strategy is capable of rising to this challenge.

Disruptions - Functional security for the EU

Bengt Sundelius

[The author is indebted to Magnus Ekengren and Britta Ramberg of the Swedish National Defence College, who contributed significantly to this article and provided valuable comments on his draft.]

The member states of the European Union are currently having a serious rethink about security issues. As security is a broad concept, it is worth perhaps examining exactly what we mean when we talk about security in this context. What are we trying to secure? What aspects of national social and economic infrastructures is it considered vital to secure? In particular, what areas are considered important enough to warrant the mobilisation of national and international resources to ensure that they are safeguarded? Whose security is of primary concern – that of the state or of its citizens? The fundamental elements of national security doctrines are being reconceptualised across Europe. Across EU capitals and in Brussels-focused institutions, innovative ideas are being presented and debated in a common search for better strategies to deal with the security challenges of the future.[1]

Contemporary crises illustrate that modern governance amounts to more than just the delivery of effective public services. We live in a world characterised by increasing complexity, connectedness and contingency, where governments are forced to recognise the limits of conventional planning, law-making and top-down modes of administering society. Despite their increased technological capabilities in monitoring and controlling social behaviour, governments are constantly confronted by surprises and threats at local, national and transnational levels. As well as being exposed to natural disasters on an ongoing basis, modern societies also *produce* new forms of risks, disturbances and threats.

New innovative ideas are being developed regarding different types of potentially harmful contingencies. What kinds of threats and risks do we have to prepare for and counteract in order to secure our future? Traditional fears are now combined with a new awareness of the perils and consequences of living in a Risk Society. The European Union outlines five threats in its Security Strategy, adopted by the European Council in December 2003: terrorism; the proliferation of weapons of mass destruction; regional con-

1. See, for example, the Danish Vulnerability Commission (National Sårbarhedsudredning), January 2004. Beredskapsstyrelsen, http://www.im.dk//imagesupload/dokument/Sårbarhedsudredning.pdf; the Finnish Vulnerability Commission (Strategi för Tryggandet av Samhällets Livsviktiga Funktioner), Ministry of Defence, Finland, 2003. http://www.defmin.fi/chapter_images/1688_Strategi_fOr_tryggande_av_samhAllets_livsviktiga_funktioner.pdf; the Norwegian Commission on the Vulnerable Society, *The Directorate for Civil Protection and Emergency Planning. Norwegian Commission on the Vulnerable Society*; the Swedish Commission on Vulnerability, Säkerhet i ny tid – SOU 2001:41. http://www.regeringen.se/content/1/c4/39/05/244fe2ba.pdf.

flicts; state failure; and organised crime.[2] In March 2004, a Solidarity Declaration was adopted by the European Council.[3] In this political pledge, the EU member states gave a commitment to provide all necessary assistance, including military force, to the other members in the event of a terrorist attack or of a natural or man-made disaster. As the origins and scope of the contingencies threatening European societies and citizens become more transnational, much of the response will have to be constituted, or at least coordinated, at the transnational level. Whether we like it or not, the EU will be expected more and more to perform crisis management functions.

In this *Chaillot Paper* an overview is presented of the global challenges with which Europe may be faced over the next ten years. This inventory of the three 'Ds' – disasters, diseases and disruptions – is an important departure point for a discussion about the various instruments with which the European Union may respond to these threatening situations. The concept of *functional* security, as opposed to *territorial* security, will be introduced. Some trends of post-modern society and transnational interconnectedness will be outlined. These developments will affect both the challenges and our abilities to meet them in effective and legitimate ways.

We are experiencing a paradigmatic shift away from the traditional territorial defence systems of the Cold War to the evolving notion of *embedded functional security*. The EU is in the process of developing innovative practices for dealing with security challenges originating abroad, at home and indeed within its *intermestic sphere*, i.e. where the international and domestic spheres intersect. In fact, the institutions and policies of the EU have ushered in a whole new geopolitical landscape, transcending national and international boundaries: it is to be hoped that within this new arena an ever more secure European community can be built. This chapter endeavours to outline the development of the concept of functional security in the EU, taking account of traditional concerns about both state security and human safety.

Security challenges ahead

In classical security policy planning, threats are actor-focused and the classical threat is an armed attack by another state. This scenario constituted the essence of the traditional East-West military

2. See 'A Secure Europe in a Better World. European Security Strategy', Brussels, 12 December 2003, http://ue.eu.int/uedocs/cmsUpload/78367.pdf

3. Presidency Conclusions, 'Declaration on Combating Terrorism', Brussels: European Council: 25-26 Mar (2004), http://www.eu2004.ie/templates/news.asp?sNavlocator=66&list_id=462. The language was the same used in initial drafts of the EU Constitutional Treaty, which then materialised in Art.I-43 of the text approved and signed later in 2004

relationship. However, this contingency is now more urgent in other parts of the world than in Europe. If one drops the notion of the state, another actor-focused threat emerges: an armed attack by 'another'. September 11 2001 and March 11 2004 were memorable examples of this category of threat. The question therefore arises: what are the most appropriate instruments with which to respond to this kind of challenge?

Inevitably, the instruments that were developed to deal with an armed attack by another state are unlikely to be the most appropriate to deter or counter an armed attack by 'another'. Should this new category of violent threats be framed as legitimate national defence concerns, as an area for criminal investigation by the police, or as a new hybrid of functional security that straddles both the international and domestic spheres? The choice of problem frame will have consequences for the appropriate legal measures and the instruments chosen to deal with this type of armed attack.

Another actor-focused threat is the non-violent attack by 'another'. It could be an isolated incident, e.g. an information operation. In such a case, the problem is how to identify who or what controls an information operation. Is it directed by another state, by a terrorist network, by a criminal syndicate, or by an individual hacker?[4] Is it, for instance, a teenager in Germany who is merely interested in creating havoc in the international information system? For example, in the Sasser incident in 2004, a virulent computer virus was rapidly spread globally and with very costly effects for public services and for private businesses. How do the relevant authorities know how best to respond, when they have to deal with such an attack under acute time pressure? The consequences of not acting could be very disruptive to society.

So far the discussion has been limited to actor-focused threats, which is the traditional locus of national security concerns. However, the horizons can be further widened to also include so-called *structural threats*. Structural threats are not actor/agency-focused in an antagonistic sense. Rather, with this type of threat, serious situations simply evolve independently of any human intent to harm.

This type of challenge can be illustrated using two examples. The first is a systemic collapse in neighbouring societies and political systems, where nobody is at fault in a direct sense. There is no identifiable culprit. There is no evil Other.[5] A nuclear plant is destroyed due to a malfunction. Something goes seriously wrong in Chernobyl or Ignalina. Energy shortfalls or power blackouts

4. Michael Erbscholoe and John R.Vacca, *Information Warfare: Combat Hackers and Cyber Attackers*, (California: Berkeley, 2001). Demchak C. Osborne, '"New Security" in cyberspace: Emerging intersection between military and civilian contingencies', *Journal of Contingencies and Crisis Management*, vol. 7, no. 4, 1999, pp.181-198.

5. Barry A. Turner and Nick F. Pidgeon, *Man-made Disasters* (Oxford: Butterworth-Heinemann, 2nd edn., 1997).

simply happen and have serious safety consequences. There may be sudden outbreaks of deadly epidemics of various kinds due to natural mutations and contagious disease may spread quickly.

Within the EU, member states have, of course, a vested interest in the survival of neighbouring countries. It must be ensured in various ways that they do not collapse as this would entail grave consequences not just for themselves but for others. State collapse or breakdown in the 'Near Abroad' is likely to spill over into our own national security systems.[6] This was highlighted during the decade after the collapse of the Soviet Union and of the Yugoslavian Federation. With post-modern communications and greater mobility of people and other resources, the parameters of the EU's 'Near Abroad' have been dramatically extended across the globe. The recent tsunami disaster was a vivid and tragic reminder of the extent to which this is true.

Another type of structural threat would be a severe domestic disruption occurring within our own societies. When serious accidents, disasters, infrastructure collapses, riots or epidemics spin out of control, this has serious implications for functional security. Such events can lead governments to take stringent action. Public authorities may enforce severe crisis management measures that seem effective in dealing with the accident, riot or whatever other form of mass disruption has occurred. The problem is that draconian measures may undermine the democratic values or the judicial system of society. Many countries have to resort to a balancing act, whereby on the one hand they try to take effective action that will solve the problem in question, and on the other hand, they try to avoid undermining the values and aspirations of democracy, the market economy and individual rights.[7] The problem in such a situation is that security enhancement may then be compromised in the interest of maintaining democratic freedoms. The solution would appear to lie in a coordinated EU-based approach.

One can note in current European thinking a drift away from a political focus on *the security of the territory*. In the future, the main political concern will be with ensuring the *security of the critical functions of society*. It is not the national territory that is primarily at stake, but the ability of the government and civil society to function, the necessity to maintain critical infrastructures, for democratic governance to manifest certain basic values, and so forth.[8] This paradigmatic shift from a territorial to a functional security focus influences the thinking and the evolving practices within the EU.

6. Bengt Sundelius and Jesper Grönvall, 'Strategic Dilemmas of Biosecurity in the European Union', *Biosecurity and Bioterrorism: Biodefense Strategy, Practice and Science*, vol. 2, no.1, 2004; Jesper Grönvall, 'Managing Crisis in the European Union: The Commission and Mad Cow Disease', *Crismart*, vol. 10, 2000. The Swedish Agency for Civil Emergency Planning, Karlstad: Tryckeri AB Knappen.

7. Paul 't. Hart, 'Symbols, Rituals and Power: The Lost Dimensions of Crisis Management', *Journal of Contingencies and Crisis Management*, vol.1, no.1, 1993, pp.36-50.

8. Barry Buzan, *People, States and Fear: The National Security Problem in International Relations* (Brighton: Wheatsheaf, 1983).

Trends affecting functional security

What trends can be inferred from the academic literature on societal developments that are regarded as significant for the EU's future ability to enhance its functional security? A number of developments are significant within societies, in the relationship between society and the state, and also in a broader transnational context, among societies and governments. The aspects noted below have a bearing on how government leaders can respond to and recover from the serious security threats reviewed in this *Chaillot Paper*.

For one thing, geopolitical space is replaced by a time-driven high-pace logic of functional security challenges and countermeasures. Distances nowadays are not only determined by geography, but by the time factor, as continents and world cities are increasingly interconnected through easy and rapid air travel. For example, seemingly obscure developments in the health sector in a rural region of China in the winter of 2002 were rapidly transformed into a global concern over the fast-spreading SARS epidemic. Draconian measures affecting individual rights and business practices were initiated in several East Asian nations. Far away Toronto was faced with its own public health crisis over how to cope with the new disease.[9]

In Europe, an early indication of this phenomenon was manifested in the 1986 Chernobyl disaster. At the time, a cloud of radiation was transmitted by the high winds from the accident site in Ukraine across Central and Northern Europe. The radioactive fallout caused considerable damage to human and animal health, farming and businesses in its path. The effects on the ground have endured for two decades. This early example of rapidly moving, trans-boundary threats to functional security originated in a technical accident. Now, with the heightened possibility of antagonistic strikes against vulnerable infrastructures, the critical and immediately pervasive nature of these threats stand out even more.[10]

National governments need to be geared towards dealing with the security issues related to the functions of society and the requirements of governance. It is important, when planning for national defence and international security, not to build new vulnerabilities into our infrastructures and into our societies. Vulnerabilities can open up functional access points, channels of penetration for attacks by 'another', whatever or whoever that Other may be. Geopolitics and space used to be very important in strategic

9. The SARS Commission Interim Report – 'SARS and Public Health in Ontario', Ministry of Health and Long-Term Care. Published April 15, 2004,http://www.health.gov.on.ca/english/public/pub/ministry_reports/campbell04/campbell04.html.

10. Eric K. Stern, *Crisis Decisionmaking: A Cognitive Institutional Approach* (Stockholm: Försvarshögskolan, 2001); A. Libertore, 'Chernobyl Comes to Italy: The Reciprocal Relationships of Radiation Experts, Government Policies, and the Media', in Anthony Barker and Guy Peters (eds.) *The Politics of Expert Advice: Creating, Using and Manipulating Scientific Knowledge for Public Policy* (Edinburgh: The University of Edinburgh Press, 1993), pp 33-48.

planning. Now, and even more so in the future with increasingly advanced information technology, it is not space, but *pace* that is the defining strategic element. The time dimension is at the core also for national security planning.

In the high-tech society of today, technology means that disparate sectors are interlinked in a way that transcends even national boundaries. Infrastructure interconnectedness has become part of our daily lives as society depends on reliable systems for energy supply, robust communications and functioning IT-networks. These spheres of activity are mutually dependent on each other. A breakdown in one system may have immediate effects on another. For example, without electricity there will be no IT-function and problems with telephone services. Similarly, if an IT-network breaks down, electricity supplies may be interrupted. Such interconnectedness means that system flaws have the potential to combine in various ways to create significant disruption.[11]

Naturally, antagonists wishing to inflict harm upon a society are interested in identifying the critical points where various infrastructures connect. A major task in planning for functional security is to transform potential vulnerabilities linked to this technological complexity into high-reliability systems.[12] This is an open-ended process involving many societal sectors and numerous government agencies. It cannot be accomplished without the active participation of those that actually own and control most of these infrastructure networks, i.e. the private business sector.

The public expects good governance, but with less government. This trend over the last decade has been clear in most societies. Public service functions have been placed in private hands, outsourced through contracting. National bureaucracies have been transformed into lean machines. In the name of effective administration, parliaments have reduced the built-in redundancies often linked to previously prioritised national defence concerns. One result of these efficiency reforms has been that public authorities in emergencies command fewer resources and less skilled manpower relevant to ensuring functional security.[13]

During the Cold War, industry was strongly motivated to support national defence in the face of an armed attack. In the same way, business incentives must now be stimulated so as to ensure that those high-risk infrastructure complexities that are critical to the functioning of society are fully under control. Efforts must be directed both towards preventive measures and the ability to cope

11. Charles Perrow, *Normal Accidents:Living with High-Risk Technologies* (Princeton, NJ: Princeton University Press, 1999); Edward Deverell, *The 2001 Kista Blackout: Corporate Crisis and Urban Contingency* (Stockholm: Swedish National Defence College, 2003); Lindy Newlove, Eric Stern and Lina Svedin, *Auckland Unplugged: Coping with Critical Infrastructure Failure* (Baltimore: Lexington Books, 2003).

12. Scott D. Sagan, *The Limits of Safety: Organizations, Accidents and Nuclear Weapons* (Princeton: Princeton University Press, 1993); Philippe Boulle, Luc Vrolijks and Elina Palm, 'Vulnerability reduction for sustainable urban development', *Journal of Contingencies and Crisis Management*, vol. 5, no.3, 1997.

13. Peter Aucoin, *The New Public Management: Canada in Comparative Perspective* (Montreal: IRPP, 1995); Ewan Ferlie et al, *The New Public Management in Action* (Oxford: Oxford University Press, 1996); Jan Erik Lane, *The New Public Management* (London: Routledge, 2000); Donald F. Kettl, 'The Transformation of Governance: Globalization, Devolution, and the Role of Government', *Public Administration Review*, vol. 60, no.6, 2000, pp. 488-97.

and recover, whenever various hazards (whether intentional or accidental) strike.[14]

With many of the public services that can prove critical for functional security transferred into private hands for reasons of more efficient government, questions arise regarding dependencies across the public-private gap. Can this interaction be seen as a relationship of mutually beneficial dependency? Or, do asymmetrical vulnerabilities exist that can form the basis for influence and manipulation of one of the parties? Is the public-private gap in fact an undefined grey area of unclear mandates and bottlenecked resources at times of acute crisis?

Private-public partnerships need to be developed in many sectors.[15] Functional security includes the ability to recover from a dramatic threat or a systemic breakdown. Questions of accountability must be clarified prior to a crisis in order to avert painful blame-game dynamics.[16] In this post-trauma phase, the private sector is an important ally – or foe – to those with authority and responsibility to safeguard the security of the nation and its citizens. A positive partnership with the private business sector needs to be operationalised prior to the moment when a crisis occurs.

Public expectations of government performance remain high in the face of a wide spectrum of threats to societal security and to individual safety. At the same time, the available resources under the direct command of the government to meet such threats have been redefined and often reduced in scope and magnitude. This deficiency has not yet been compensated for by enhanced multinational capacities. In spite of a general awareness of the importance of pooling resources internationally, when confronting transnational threats, little added value in terms of tangible resources has yet been generated from such cooperation. Statements of solidarity have been combined with *ad hoc* arrangements for mutual assistance, when large-scale disruptions of societies have occurred. The governing structures for handling threats to functional security are still national in focus. The potentially extensive mobilisation of resources made possible through, for example, implementing the Solidarity Clause now enshrined in the EU Constitutional Treaty has not yet been activated.

Infrastructure failures, such as power outages, can cause considerable harm directly. In addition, they generate second-order and third-order consequences which often prove to be of even greater and more enduring harm to society. In a blackout, like that

14. Robert Agranoff, 'Managing in Network Settings', *Policy Studies Review*, vol. 16, no.1, 1999, pp. 18-41; Myrna P. Mandell, 'Collaboration Through Network Structures for Community Building Efforts', *National Civic Review*, vol. 90, no. 3, 2001, pp. 279-87.

15. Akintola Akintoye, Matthias Beck and Cliff Hardcastle, *Public-private Partnerships: Managing Risks and Opportunities* (Oxford: Blackwell Science, 2003).

16. Thomas Preston and Paul 't Hart, 'Understanding and Evaluating Bureaucratic Politics: The Nexus Between Political Leaders and Advisory Systems', *Political Psychology*, vol. 20, no. 1, 1999; Uriel Rosenthal, Paul 't Hart and Alexander Kouzmin, 'The Bureaupolitics of Crisis Management', *Public Administration*, vol. 69, no.2, 1999, pp. 211-233.

experienced in New York in August 2003, numerous services are interrupted.[17] For this reason, hospitals and other emergency installations keep back-up systems. However, most basic functions and facilities of society are not protected in this way due to cost calculations. Infectious diseases can spread across populations and demands often rise very quickly for vaccinations, for isolating the affected and for controlled hospital care.[18] *Cascading effects* evolve in uncontrollable ways, when some dormant risk contingency suddenly becomes a terrifying reality.

In an extreme urban heatwave, like that experienced in Paris during the summer of 2003, thousands of elderly people, as well as some very young children, died due to inadequate planning for such a contingency.[19] The death toll generated widespread public criticism of the health services and, indirectly, of the public officials responsible for providing adequate services. There was a call for political accountability for the human consequences of a lack of preparations for such an extreme weather situation. A rather different scenario illustrating the way in which the tide of public opinion can turn against a government at a moment of national crisis was the national elections that took place in Spain in March 2004. The Spanish government was held accountable for its insistence that ETA were the culprits in the Madrid terrorist train bombings, despite strong evidence of Al Qaeda involvement. The consequences of this election victory for the social democratic opposition have so far been significant for Spain, for the war in Iraq and for the evolving European Union. This shows how the effects of mass disruptions cascade beyond the events themselves in unpredictable ways.

It is not only how politicians act but also the appearance of what they do (or do not do) which leaves an imprint in the public mind.[20] The importance of the mass media has been widely noted in the processes of framing public issues, building expectations, ascribing blame, and shaping composite images of leader success or failure in the face of security threats. George W. Bush became President in 2000 after a narrow majority vote of the US Supreme Court. However, it could be argued that he only really became the President of the American people in the wake of the public leadership he showed following the dramatic events of 9/11, as conveyed in the media. The Spanish Prime Minister, Jose Maria Aznar, lost the parliamentary election immediately following the Madrid terrorist bombings. This political defeat was in part caused by the damage

17. 'Interim Report: Causes of the August 14th Blackout in the United States and Canada', US-Canada Power Systems Outage Task Force, 2003, https://reports.energy.gov/814BlackoutReport.pdf.

18. Thomas A. Glass and Monica Schoch-Spana, 'Bioterrorism and the People: How to Vaccinate a City Against Panic', *Journal of Clinical Infectious Diseases*, vol. 34 , no. 2, 2002.

19. Abstract of the progress report – August 28th on the 2003 heatwave in France from the National Institute of Public Health Surveillance (InVS), Saint Maurice, France. http://www.invs.sante.fr/publications/2003/chaleur_aout_2003/abstract_heatwave_280803.pdf.

20. Murray Edelman, *Constructing the Political Spectacle* (Chicago: Chicago University Press, 1988).

caused to the Prime Minister by the way in which he was perceived to be guilty of manipulation and political expediency in blaming ETA for the attacks. Here, too, the role of the media was crucial.

The presence of the media increases pressures on public leaders in high stakes decision-making situations, when facing threats to the functionality of our societies and governing institutions. Deadlines for action are not only set by the exigencies of the situation at hand, but can be equally determined by media demands for news at regular intervals. A lack of adequate newsworthy information can lead to difficulties in handling media probes inside an organisation. Considerations of how to communicate actions or lack of action through the media become as important to success as calculations over what to do and what to avoid in certain critical situations.[21]

Transnational media coverage increases with advances in communication technology. Local events can blow up into global concerns, as for example when CNN makes an editorial decision to focus its interest upon a given situation. Such intensification of media attention may occur rapidly and add to the pressures on local authorities in an already difficult situation. Few national or local officials are equipped to deal with the demands of the international media corps.[22]

It is important not to build excessive vulnerabilities into national, regional or local infrastructures, organisations and, most importantly, into mindsets. The mindsets of European security elites were formed by the Cold War and have had to undergo rather difficult and painful modifications over the last decade. The mindset of the past is still influencing security thinking in European ministries. Obsolete patterns of thinking need to be unlearned and mindsets altered and replaced by a new awareness of the types of security challenges reviewed in this chapter.[23]

It is important that EU member states are not only inter-operative in terms of technology and communications when assisting each other in emergencies. We need to be inter-operative when it comes to sharing understanding and knowledge as well. We need to establish common benchmarks for measuring good performance, unsatisfactory performance, and best practices. One vital resource in that cumulative effort is expertise and organisational capacity. We should think about *interoperability* in terms of *shared knowledge* as well as in terms of a common training base for joint efforts.

21. Patrick Lagadec, *Preventing Chaos in a Crisis. Strategies for Prevention, Control and Damage Limitation* (London: McGraw-Hill Book Company, 1991); Ardyth B. Sohn, *Media Management: A Casebook Approach*, (Mahwah, New Jersey: Lawrence Erlbaum Associates, 1999).

22. Rhona Flin and Kevin Arbuthnot (eds.), *Incident Command: Tales From the Hot Seat* (Aldershot: Ashgate, 2002); Robert Heath, *Crisis Management for Managers and Executives* (London: Financial Times Management, 1998).

23. Yaacov Vertzberger, *The World in Their Minds: Information Processing, Cognition, and Perception in Foreign Policy Decision Making* (Stanford, California: Stanford University Press, 1990); James G. March, *A Primer on Decision Making. How Decisions Happen* (New York: The Free Press, 1994); Richard E. Neustadt and Ernest R. May, *Thinking in Time: The Uses of History for Decision-Makers* (New York: The Free Press, 1986).

Considerable research is conducted on the new security challenges in many countries,[24] generating a wealth of valuable observations and findings. It is extremely important that the knowledge and understanding that is gleaned from this research does not remain the preserve of think tanks but is actively used to facilitate organisational learning. A distinction can be made between organisational learning and individual learning. Learning is a complex matter when you move beyond individuals to collective and organisational contexts. This is a huge subject for academic debate and institutional design proposals.[25] This discourse is highly relevant to the present construction of common EU capacities to meet the new security challenges.

Domains of functional security

How do governments organise their professional corps to meet the security challenges of the twenty-first century? Fundamental changes are underway throughout Europe as well as in North America. The prospects for policy diffusion, mutual learning and institutional adaptation on both sides of the Atlantic seem promising. In the EU, increasingly, there is talk of the Europeanisation of national structures and procedures, and this extends to the areas of security and civil protection.[26] It seems highly likely that a similar process will be set in motion across the Atlantic.

Figure 1 (see page 83) shows the traditional two-track professional approach to state security and human safety. This model has been used throughout Europe. Different parts of the government machine have responsibility for enhancing the security of the state and protecting the safety of citizens. A sharp dividing line has been maintained between these two separate spheres of authority in many countries. Distinct professions have developed with separate training programmes, rules of engagement and operational practices.

Similarly, a dividing line has been maintained between the concerns of the domestic sphere and those related to the international setting. State security at home has been the responsibility of the criminal justice system and special counter-intelligence services. The defence sector has focused on mobilising resources against overt external threats to state security. The Constitutions of many governments reinforce this separation between the spheres of the enhancement of state security from external threats on the one hand and from domestic upheaval or disruptions on the other. In

24. Barry Buzan, Ole Waever and Jaap de Wilde, *Security: a new framework for analysis* (Boulder, Colorado: Lynne Rienner, 1998); Uriel Rosenthal, Arjen Boin and Louise Comfort (eds.), *Managing Crises: Threats, Dilemmas, Opportunities* (Springfield, Illinois: Charles C. Thomas, 2001); Robert Mandel, *Deadly Transfers and the Global Playground: Transnational Security Threats in a Disorderly World* (London: Praeger, 1999); Simon Duke, *The EU and Crisis Management: Development and Prospects* (Maastricht: European Institute of Public Administration, 2002).

25. Sander Dekker and Dan Hansén, 'Learning under Pressure: The Effects of Politicization on Organizational Learning in Public Bureaucracies', *Journal of Public Administration Research and Theory*, 2003; Eric K. Stern, 'Crisis and Learning: A Conceptual Balance Sheet', *Journal of Contingencies and Crisis Management*, no 5, 1997, pp. 69-86.

26. Magnus Ekengren, *The Time of European Governance* (Manchester UP: Manchester, 2002).

terms of safety provision, rescue services have been developed at home. These national assets are also used for international disaster assistance. Such humanitarian operations are distinct from the international focus of the defence sector. In both tracks, collaboration with partners or allies abroad is well developed.

Figure 2 (see page 83) gives the more recently evolving three-track approach, where functional security is at the core of the national mobilisation of resources. Several elements that traditionally have been kept apart are being combined and becoming connected; procedures used in war and in peacetime merge, internal and external security are interlocked, and the aims of enhancing state security and guaranteeing the safety of citizens overlap. As was noted above, in many European countries this 'holistic' approach forms the basis for recent reforms of prevalent structures, doctrines and policy instruments for enhancing national security.

Different parts of the EU establishment have primary responsibility for the six domains outlined in Figure 2. The holistic approach, which places functional security at the core, is manifested in the Solidarity Clause of the Constitution of the European Union, as adopted by the European Council in June 2004 and officially signed in October.

An Ever More Secure Community

Since 1999 the European Union has developed its external crisis management capacity within the framework of ESDP/CFSP (European Security and Defence Policy/Common Foreign and Security Policy). This covers both military and civilian crisis management and draws upon the capacities of the member states for its resources. While we often refer to the Union's crisis management capacity as a new area of cooperation, having the ESDP in mind, the European Commission in fact has dealt with crisis management in a wider sense for more than fifty years.

International crisis management tasks within the *first pillar* include trade, humanitarian and development aid, conflict prevention and enlargement. Recent developments within the first pillar have also meant increased capacities for acute response to natural and man-made crises both inside and outside the Union. For example a 'Rapid Reaction Mechanism' has been created, in order to facilitate rapid mobilisation of financial resources in the case of an imminent or escalating disaster outside the EU.

In the field of civil protection the EU has been recognised as an emerging security provider. This task is defined fairly widely and is primarily a responsibility of the Commission, and more specifically of the Civil Protection Unit (CPU) at DG Environment. The formal capacities consist of a Monitoring Information Centre (MIC) and a list of resources that the member states are willing to make available in the event of a disaster or major emergency. The CPU's remit is primarily concerned with monitoring and coordination of resources and rescue and intervention teams. The Commission has no physical or human resources itself.

Following the tsunami crisis, the Commission's Civil Protection Mechanism was immediately activated and a team of European experts was dispatched to Thailand. Other crises that triggered CPU to activate its capacities were the floods in central Europe in 2002, the sinking of the *Prestige* oil tanker in 2002 and the department store fire in Paraguay in 2004. The EU's civil protection capacity to cope with a major emergency was tested in a simulation exercise in France in October 2002, the scenario being a presumed terrorist attack using highly toxic substances. The experience of the tsunami disaster has further accelerated developments . On January 7, 2005, the Council adopted an action plan with the aim to 'better coordinate all the available resources at all levels and in all areas (analysis, planning of resources, operational action, prevention, etc.) to deal effectively with the consequences of such events now and in the future'. There was a steady flow of concrete proposals for reform during the spring of 2005 as a result of this high-level political commitment.

The Civil Protection Unit is primarily activated in the case of natural or technical disasters, but can also be used in the context of 'complex crises', after a mandate from the Council. Civil Protection is also a part of the CFSP within the second pillar, as it constitutes one of the four Civil Headline Goals. Theoretically, there are therefore two ways of activating a EU civil protection operation, either through the Commission's Civil Protection Unit or through the Council General Secretariat. So far, a civil protection operation has never been mobilised through the CFSP.

The drama of September 11, 2001, and the Madrid bombings of March 11, 2004, resulted in EU-based measures being introduced in the areas of justice and home affairs within the *third pillar*. The member states managed to agree on a common definition of terrorism and a harmonised criminal law concerning terrorism as well

as on rules for extradition of citizens. A team of national experts has, together with Europol, established the 'Europol Task Force on Terrorism', which is designed to function as a coordination centre for information exchange between the member states. In October 2004, the Union established a European Agency for the Management of Operational Co-operation at the External Borders of the EU member states (EU border agency), to be set up soon in Warsaw. The aim is to establish stronger common mechanisms to safeguard the external borders of the enlarged Union.

There are several EU-based crisis management mechanisms that overlap and compete in terms of competences, capacities and decision-making procedures, and – last but not least – financial resources. This makes the need for coordination imperative. The issue of inter-institutional coordination among the existing and developing bodies and mechanisms is of central concern if the effectiveness of the common capacity to act in mass disruptions is to be maximised. To what extent do the various mechanisms coordinate or do they rather compete? Do they exist in parallel universes? Can this multiple crisis management system in the EU foster policy coherence or does it encourage policy fragmentation?

Interlocking or interblocking?

Several important mechanisms in the EU deal with functional security issues, both within the Commission and within the Council. There is an ongoing process of developing and consolidating parallel structures for dealing with mass disruptions at home and abroad. The remits of the Council, with its formal external crisis management mandate, and of the Commission, with its long practical experience, are in practice inextricably intertwined. Security enhancement cuts across EU institutions and across the three pillars.

Within the Commission, three information centres have been set up. ECHO has an early warning system, and the capacity to alert authorities and analyse information on natural and man-made disasters. DG Relex has a 'crisis room', where personnel monitor potential and actual trouble spots around the world. Based on the information received here, it can decide to activate capacities. DG Relex operates in connection with the EC delegation in the relevant country. The crisis management tool which DG Relex has at its dis-

posal is the Rapid Reaction Mechanism (RRM), aiming at rapidly financing operations in complex crises.

A third information centre in the Commission is established at DG Environment's Civil Protection Unit (CPU). This is equipped with a couple of TV monitors, faxes and telephones. Information about natural and environmental disasters reaches these monitors and constitutes the basis for the requests for assistance that CPU helps the stricken county to transmit to the member states. In addition to these three information flow systems within the Commission, the Council's General Secretariat has established a centre for information and monitoring. This is very similar to that of DG Relex.

Another area of duplication concerns resource inventories. These illustrate systems that are not only working in parallel but actually competing with one another. The CPU at DG Environment has the mandate to coordinate the member states' civil protection capacities in the case of natural or environmental disasters mainly within, but also outside, the Union. For this task, a database of available resources has been created. Despite the existence of this database and the investment which this represents, the General Secretariat is creating another database for the administration of available resources in the member states within the field of civil protection. It is argued that the civil protection resources that the member states are willing to give in primarily *non-political* crises (under the coordination of the Commission's CPU) might not correlate with the available resources in a primarily political crisis (under the ESDP framework).

The *formally* strict dividing line between the mandates and the procedural rules of the Commission and the Council can result in serious operational problems, as the systems in practice are highly interconnected. Under the current dispensation, the two spheres of action would operate in tandem in the case of a crisis. One area where those in authority are liable to encounter problems is in the area of the implementation of humanitarian assistance. The Commission has the financial resources, but it has traditionally implemented decisions through projects and programmes and with outsourced personnel. This is a strength, according to the Commission, as it provides flexibility and efficiency. However, in the view of the Council, this policy undermines the credibility of the Union, as policing and civil protection are matters of public interest and cannot be outsourced to NGOs.

The different views on what EU crisis management should be about and how it should be conducted are crucial to ongoing constitutional developments. The Commission's trump card is the fact that it has its own independent financial resources, something that the Council lacks. The Commission handles most of the common expenditures and has an interest in how that money is spent. However, the member states are unwilling to accept that the Commission should control the purse strings in this way. When acting together in an acute mass disruption situation the ramifications of this situation could obviously become problematic and therefore the issue clearly needs to be resolved. Any crisis management operation runs the risk of also turning into a public disaster if things go wrong. If a crisis management operation launched by the EU lacked clear signs of coherence or ended up costing many human lives this would invite strong media criticism. A malfunctioning crisis management system would have the potential to create a political crisis for the leadership of the EU.

To obtain legitimacy in the future, the EU must show its strength as a comprehensive security provider. The EU must be able to demonstrate that it is capable of protecting citizens, delivering security and handling major emergency situations in a way that goes beyond the capacity and effectiveness of state actors. Coherence is one dimension of this objective. There is competition over who should be the leading EU manager in situations of mass disruption, and this is one challenging aspect of coherence. In addition, there are overlapping mechanisms in the European security enhancement arena in general and in the crisis management arena in particular. This adds to the challenge for the EU to create both internal and external coherence and to bring about effective and legitimate emergency assistance to those who need it.

Embedded functional security in Europe

Functional security bridges the conceptual and professional gap between the way in which security is envisaged in the context of the Union as a state writ large (the 'high politics' approach) on the one hand, and on the other hand, the emphasis on the safety of human beings both inside and outside of the Union (the network-based approach). In this bridging perspective, priority tasks for a

secure community of twenty five would be to safeguard the capacity for democratic governance and for societies to continue functioning under the stress of mass disruptions.

Without a holistic perspective on the totality of EU engagements with regard to security and safety inside and outside the borders of the Union, the six distinct policy domains in Figure 2 (see page 83) would fragment into isolated spheres of sectorised interests. Also, setting resource priorities across these operative spheres is only politically manageable with a holistic approach that spans across domains into an overall functional security paradigm for the Union and its component member states.

In *Figure 3* (see page 84) an additional EU domain is added in between the domestic sphere and the international setting. In this *intermestic sphere* the necessary trans-boundary linkages across the domestic and the international levels are highlighted. Drawing on the earlier discussion of trends affecting functional security, it is clear that this intermestic sphere is an important security domain for the Union. Its importance is symbolised by the Solidarity Clause. In this common political commitment to functional security, both a concern with state security and the requirements of human safety are included. The solidarity pledge cuts across these distinct professional tracks and connects the international-domestic nexus. For the EU, the intermestic sphere becomes the primary arena for dealing with mass disruptions.

Embedded functional security has to be operative on a multi-sector level. There has to be safety and security cooperation and preparation in and between, for example, the health, financial, food, or transport sectors. The consequences of various threats have to be managed and prepared for at all levels. Responsibilities range from the local, regional and national right through to the European level. The common approach has to be multi-institutional and tri-pillar. The EU Commission (including the directorates), the Council, the Parliament, and many autonomous EU agencies have to be involved and must be able to cooperate.

Functional security is a multi-national concern. 25 member states plus the institutional complex in Brussels must develop a common approach and outlook and pre-test organisational relationships in support of their common security. However, preparations for European functional security cannot be conducted in splendid isolation. This demanding collaborative effort must be multi-continental in approach in order to be effective. The func-

tional security paradigm must reach across the Atlantic to the USA, as well as to other global partners, starting with the UN.

We know little about the EU's performance with regard to transnational threats and emergencies within the 'ordinary politics' of mass disruptions. A concrete blueprint now needs to be drafted for the implementation of the commitments expressed in the political pledge of the EU Solidarity Clause, concerning security and safety both at home and abroad. The onus is now on think tanks, working in partnership with policy-makers, to develop knowledge about embedded functional security, and this research must be carried out on a transnational EU-wide basis What we now need are analytical road maps that are based both on scientific research and on practical experience.

Figure 1:

Concepts and domains of European functional security

Objective	**Domain**	
	Domestic sphere	**International sphere**
State security	Law & order	National defence
Human safety	Rescue services	Internat. disaster asst

Figure 2:

Concepts and domains of European functional security in the making

Objective	**Domain**	
	Domestic Sphere	**International Sphere**
State security	Law & Order	National Defence
Functional security	**CM capacity**[27]	**Internat. CM capacity**[27]
Human safety	Rescue services	Internat. disaster asst

27. CM capacity: crisis management capacity

Figure 3:

Concepts and domains of European embedded functional security.

Objective	**Domain**		
	Domestic sphere	**Intermestic sphere**	**International sphere**
State security	Law & order	**Counter-terrorism**	National defence
Functional security	CM capacity	**Solidarity clause**	**Internat. CM capacity**
Human safety	Rescue services	**Civil Protection**	Internat. disaster asst

Conclusion – Human security revisited

In our daily lives, we are increasingly confronted with news and images of catastrophic events. A cataclysmic natural disaster in faraway Asia kills thousands of people, including hundreds of European holidaymakers. A vicious terrorist attack in the heart of London, perpetrated by European citizens against other European citizens, paralyses a major capital city and raises the levels of alert across the whole EU. Drought and famine plague a West African region, where there seems to be little the international community can do in the short term to help the local population effectively. Extreme weather conditions – from torrential rains in Central Europe to almost unstoppable forest fires in the Iberian peninsula – dominate the headlines over the entire summer. A violent hurricane, so strong that it destroys one of America's major and most famous cities, creates mayhem in the south-west of the United States: in its aftermath television images project worldwide a sense of helplessness and even horror, revealing the extent to which abject poverty still exists even inside one of the most highly developed societies on the planet. Last but not least, there are mounting fears about the possible arrival of a new pandemic carried by migrating birds across Eurasia.

As a result, we are experiencing a heightened sense of vulnerability that seems to be altering our perceptions of (in)security. It is not just terrorism, as it was after 9/11, although both the Madrid and London bombings have brought that threat closer to us all. It is not just climate change, whose actual impact is hard to grasp exactly, much as it is widely believed to play a role in natural disasters of the kind we have witnessed more and more in recent times. It is not just the persistent, even aggravated, North-South divide, in all its manifestations. It is, also, the potential interconnectedness and combined effect of all these factors, as well as their ultimate proximity to our lives and worlds, that matters. Risks and threats appear to be global, multi-faceted, and capable of cross-cutting the traditional barriers between the national and interna-

tional bodies expected to deal with them. Meanwhile, citizens (in Europe and elsewhere) are increasingly realising that the response cannot be simply sector-specific, or confined to the domestic sphere.

This *Chaillot Paper* has tried to show that, in order to deal with such (old and new) challenges, a whole set of different policy responses needs to be set in motion. Mitigation, adaptation and prevention, however, are not mutually exclusive or incompatible strategies. More often than not, they are all means to the same end, and they have to be put in place simultaneously and consistently. Also, given the sheer scale of the challenges, these strategies require a high level of transnational coordination. In our (part of the) world, this can only by achieved by and through organisations like the European Union. In some policy areas, some structures and an experiential base already exist within the EU, although these could and should be improved and strengthened. In others, a combination of mostly narrow national and bureaucratic interests makes it harder to pursue integrated approaches and generate common actions.

History shows that effective responses to new challenges often come about only after major shocks and catastrophes. Science, for its part, shows that most disasters – be they natural or man-made (or a combination of both) – are not only fairly predictable but also often preventable. Politics and policy-making, however, show that the necessary willingness to act and react must be matched by appropriate measures and arrangements, which in turn help generate further political will. In this respect, once again, the EU is in a unique position in that it already has a record of sharing and pooling separate resources and capabilities, and of producing not only more than the sum of its parts but also a genuine multiplier effect. Furthermore, and despite the recent crisis over the EU Constitution, European citizens seem increasingly to share a similar sense of vulnerability, a similar demand for security in broad terms, and a similar awareness of the need to act together. Both opinion surveys and media reports testify to this. It is therefore advisable that their elected rulers fully acknowledge this and provide the necessary leadership and foresight to allow the Union to profile itself as a crucial human security actor in all the domains (both old and new) in which it can make a real difference – inside as much as outside its current borders.

About the authors

Stefan Elbe is a Senior Lecturer in International Relations in the Department of International Relations and Politics at the University of Sussex. He has held previous positions at the University of Essex, the University of Warwick, the International Institute for Strategic Studies, and the London School of Economics. His publications include *Strategic Implications of HIV/AIDS* (Oxford University Press, 2003) and 'HIV/AIDS and the Changing Landscape of War in Africa', *International Security*, vol. 27, no. 2 (Fall 2002).

Urs Luterbacher is a Professor of Political Science at the Graduate Institute of International Studies in Geneva, Switzerland. Professor Luterbacher has been visiting professor at the University of Michigan and the University of Nebraska. He is the author of several books and articles on arms race modelling, conflict and cooperation and international cooperation about global environmental change. His latest work on international relations and global climate change was published by MIT press.

Antonio Missiroli is now Chief Policy Analyst at the European Policy Centre in Brussels. He was a research fellow at the ISS from 1998 to 2005. He was formerly a lecturer in West European Politics at Dickinson College, as well as Head of European Studies, CeSPI, Rome. He is also a professional journalist and commentator on EU and international affairs. Publications include papers and books on CFSP, ESDP, EU institutional matters, Scandinavia, political opposition, Central Europe and Italian foreign policy.

Bengt Sundelius is Chief Scientist of the Swedish Emergency Management Agency and Professor of Government, Uppsala University. He is the founding Director of the National Centre for Crisis Management Research & Training (CRISMART) of the Swedish National Defence College. He has been a Professor of Political Science and Director of the International Graduate School of University of Stockholm, Head of the Security and Foreign Policy Research Programme of the Swedish Institute of International Affairs and Director of Research at the Swedish National Defence Research Establishment.

Marco Zupi is Deputy Director of the Centro Studi di Politica Internazionale (CeSPI) based in Rome, Italy, where he is scientific co-ordinator of International Development Studies and, prior to this, was a collaborator since 1995. He is a Lecturer in International Political Economy at Roskilde University in Denmark. He has written and edited numerous books and articles on development co-operation and development economics.

Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
BSE	Bovine Spongiform Encephalopathy
CAP	Common Agricultural Policy
CDM	Clean Development Mechanism
CFSP	Common Foreign Security Policy
CNM	Crisis Management
CNN	Cable News Network
CPU	Civil Protection Unit
CSP	Country Strategy Papers
DAC	Development Assistance Committee
DG	Directorate General
EC	European Community
ECHO	European Commission Humanitarian Aid Office
EDF	European Development Fund
ESDP	European Security and Defence Policy
ESS	European Security Strategy
EU	European Union
FCCC	Rio Framework Convention on Climate Change
G8	Group of Eight Industrialized Nations
GATT	General Agreement on Trades and Tariffs
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GFFATM	Global Fund to Fight AIDS, Tubercolosis and Malaria
GHG	Greenhouse Gas
GNI	Gross National Income
GNP	Gross National Product
HIV	Human Immunodeficiency Virus
IFF	International Finance Facility
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
IT	Information Technology
KP	Kyoto Protocol
MDG	Millennium Development Goal
MIC	Monitoring Information Centre
NATO	North Atlantic Treaty Organisation
NGO	Non-governmental Organisation
PRS	Poverty Reduction Strategies
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
RRM	Rapid Reaction Mechanism
SARS	Sudden Acute Respiratory Syndrome
UN	United Nations
UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
UNFCC	United Nations Framework Convention on Climate Change
WHO	World Health Organization
WMO	World Meteorological Organization
WTO	World Trade Organization

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The European Security Strategy (ESS) issued by the EU in December 2003 devoted its first chapter to what it called 'global challenges'. Most of those challenges –poverty, infectious disease, drought and famine, violent conflict – affect the Europe of today only indirectly and/or moderately, although they certainly had a much more direct impact in previous centuries (including the last one). By contrast, some of them – global warming, infrastructural disruptions, migration flows – may affect European societies in a much more dramatic fashion in the future.

The main goal of this *Chaillot Paper* is to try and explore the various issues involved and their (actual and potential) correlations. It dwells upon their root causes and the EU policy record so far, and puts forward a few tentative recommendations on how to move ahead. It does so by resorting to a series of key 'D words' that may help situate and conceptualise the different challenges. Its focus, however, is not primarily on *D*efence, although the military dimension can indeed be part of the picture. Rather, a possible new (or additional) *D*-Drive for EU security policy should encompass what we generally call *D*isasters. The contributors have broken them down more specifically as environmental *D*egradation (Urs Luterbacher), resource *D*eprivation (Marco Zupi), infectious *D*isease (Stefan Elbe), and functional *D*isruption (Bengt Sundelius).

This *Chaillot Paper*, edited and introduced by Antonio Missiroli, aims to provide some rudimentary software to start (up) with. It is also a response to the call for mutual solidarity against 'natural and man-made disasters' that was enshrined not only in art. I-43 of the EU Constitutional Treaty, but also in the European Council Declaration released after the terrorist attack of 11 March 2004 in Madrid, both of which commit the member states to engage to that end 'all the instruments at their disposal, including military resources'.

published by
the European Union
Institute for Security Studies
43 avenue du
Président Wilson
F-75775 Paris cedex 16
phone: +33 (0)1 56 89 19 30
fax: +33 (0)1 56 89 19 31
e-mail: institute@iss-eu.org
www.iss-eu.org
€ 10