

1 Introduction: Security and Environment in the Mediterranean

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This book focuses on two basic concepts: *security* and *environment*, on the *environmental security* dimension and a *human security* perspective and different outcomes of global and regional environmental change on natural *disasters* and *environmental conflict* but also on efforts at *environmental cooperation* that have resolved or avoided conflicts from occurring in the *Mediterranean* eco-region (Brauch ch. 2). This chapter offers an overview of the themes and structure of the book (1.1), its key research questions to be addressed (1.2), its aim to achieve an interdisciplinary and intercultural scientific dialogue (1.3) to contribute to problem awareness, agenda-setting and an anticipatory learning (1.4), on the authors and the audience (1.5), on the editorial process (1.6) and on the contents (1.7).¹

1.1 Themes and Structure of the Book

No conceptual debate on environmental security exists in the Mediterranean and within the social science community dealing with the Mediterranean space. This volume focuses on environment and security linkages that may lead to conflictual outcomes or may be solved by cooperative solutions. This volume considers two themes a) theoretical and political conceptualisations of security, including environmental security and environmental conflict, and b) non-military environmental developments that may have had an impact on security and conflictual outcomes since World War II. Both themes are introduced by four prefaces by elder statesmen, diplomats and intellectuals from the North and the South that address the turning points at the beginning of the 21st century after 11 September 2001; by an American diplomat, no-

tions of security as perceived by a former Jordanian foreign minister, the risks of conflict during the 21st century due to population and resource pressures by a British diplomat, and the need for a cooperation among civilisations by a distinguished Egyptian intellectual.

The first theme starts with a review of social science research on security and environment linkages, on conflicts in the Mediterranean (1950-2000), and on experience with conflict prevention, especially during the 1990's (part I). This will be followed (part II) by an analysis of NATO's Mediterranean Security Dialogue from the perspective of a NATO official and of an American security expert, and evaluations by two generals from Egypt and Spain. An official of the European Commission analyses the security concept of the EU for the Mediterranean. Then different conceptualisations of security are offered by political scientists from Germany, the Netherlands, Denmark and Spain, by a political geographer from the U.S.A. and an economist from Poland (part III). These Northern perspectives are contrasted with Southern assessments from Tunisia, Egypt, Israel and Turkey (part IV). Part V reviews a hard security problem (missile defence) and two soft security issues: terrorism, drugs and migration.

The second theme is introduced in part VI with conceptualisations on environmental security and conflict that discuss their relevance for the Mediterranean, examine theoretical issues on causal relations among structural factors, and contrast the opposite perspectives of Neomalthusians and Cornucopians. Part VII examines the impacts of wars on the environment in case studies on mines from a World War II battlefield (El Alamein, Egypt), on the second Gulf War (1990-1991), on the wars in the Balkans and the Middle East conflict and the multilateral environmental talks in the framework of the Middle East peace process. Then the changes that occurred during the 20th century are reviewed for six non-military factors by specialists from several disciplines: population

¹ This chapter was drafted by Hans Günter Brauch with contributions from P.H. Liotta and Paul Rogers and comments from Arthur Westing.

growth and climate change (part VIII), desertification (part IX), water (part X), food and urbanisation (part XI). Part XII analyses the occurrence of natural disasters and forest fires and international efforts in coping with them, and in part XIII the editors draw theoretical, conceptual, as well as policy conclusions.

1.2 Research Questions on Environment and Security

On the second theme the authors were encouraged to discuss the following questions on the complex interactions among these six factors, and on their implications and repercussions for the societal level as well as on their potential impact on disasters, crises and conflicts:

- Have there been interactions between population growth and regional climate change?
- Has population growth and climate change contributed to soil erosion and desertification?
- How did climate change, soil erosion and precipitation affect the arid and semi-arid regions?
- What changes evolved in the rising demand for water, the declining self-sufficiency in food, and the increasing food imports that contributed in some MENA countries to foreign debts?
- What has been the impact of urbanisation on domestic food production and supply?
- Which causal interactions could be observed among these six factors, and what have been their implications for different outcomes: disasters, migration, crises and conflicts?
- To what extent have these six factors contributed to conflicts during the 20th century?

The editors will not test narrow hypotheses, but they encouraged the authors to look beyond their disciplinary boundaries at potential linkages that should be analysed in subsequent case studies. Stimulated by Braudel's (1972) three historical times: a) the history of long-term slow changes (*history of structures*), of b) the history of repeating events (*cyclical history*), and c) the short-term and fast moving *history of events*, Brauch (2001c: 54, ch. 2) suggested focusing on the relationship among the structural factors of a *survival hexagon*: a) population growth, b) climate change, c) water, d) desertification, e) food, and f) urbanisation with natural disasters (figure 2.16) and conflict constellations of a *conflict pentagon* that may be caused by a) domestic migration; b) domestic instability, radicalisation of political and religious

groups; c) civil wars; d) bilateral or regional conflicts on borders, water and scarce resources; and e) international North-South conflicts of interests (figure 2.18). Little is known on the interaction of these factors with causes of conflicts. Collaborative research of researchers from North and South, and individual and comparative case studies may offer new empirical insights.

In the late 20th century water scarcity, division of water, and water rights have been a cause of controversies for three regimes of the River Jordan, Euphrates, and Nile (ch. 42-44 by Dombrowsky, Scheumann, Peichert) that have been solved by negotiations. Most Mediterranean countries have submitted their first national communication to the UN Climate Change secretariat.² Little is known on the security impact of climate change (Brauch 2002; Strippel 2002; Pearson 2002) in this eco-region. More integrated climate models are needed for individual countries (Strzepek/Onyeji/Chibo/Saleh/Yates 1995) and for the whole region. This requires the cooperation between natural and social scientists but also a dialogue between government officials and experts in universities and international organisations. This volume will contribute to a North-South and an interdisciplinary debate and learning of relevance for policy-makers in international organisations, in national governments, and for nongovernmental actors.

The book deliberately excludes a debate of the many unresolved conflicts and of the violence that is continuing, causing new casualties and innocent victims among the parties. Irrespective of different perceptions and evaluations of these events by the authors, it is the goal of the editors to contribute to the emergence of a *small epistemic scientific community* where on the individual level trust and respect for the different views and assessments exist.

2 As of September 2002: all EU Mediterranean countries, and the EU have submitted two national communications. Among the MENA countries the initial climate communication has been submitted by: Algeria (30.4.2001); Egypt (19.7.1999); Israel (Nov. 2000); Jordan (16.3.1997); Lebanon (2.11.1999); Morocco (1.11.2001); Tunisia (27.10.2001). In Southeastern Europe, Albania (13.9.2002), Croatia (7.2.2002), Slovenia (28.8.2002) submitted their first communication. Only Turkey did not join the UNFCCC.

1.3 Interdisciplinary and Intercultural Scientific Dialogue

This book differs from publications on environmental security and conflict by aiming at a *North-South intercultural scientific debate* on conceptual security issues, an *interdisciplinary debate* among political scientists, demographers, climate, desertification, water, food and urbanisation specialists, a *dialogue between academia and policy-makers* in international organisations and national governments and non-governmental actors, and a *dialogue between elder statesmen* with a distinguished career in government and *young researchers*.

1.4 Problem Awareness, Agenda-Setting and Anticipatory Learning

The editors pursue three goals: a) to contribute to *problem awareness* for the different security concepts in North and South, on hard and soft security issues, on non-military environmental challenges and security problems; b) to stimulate and encourage interdisciplinary scientific research and political efforts to resolve, prevent, and avoid that environmental factors may contribute to violent conflicts (scientific and political *agenda-setting*); and c) to contribute to a better understanding of the complex interactions among natural processes, nature- and human-induced regional environmental changes (*learning*).

This volume is based on past experience and historical evidence in the natural and social sciences (*knowledge*). It has been motivated by the concern of the editors that the best and most cost-efficient defence policy must recognise in time causes that may contribute to conflicts and to develop cooperative counterstrategies to avoid that future trends will escalate to conflict. Irrespective of political efforts for conflict resolution and prevention (by UN, OSCE, EU and NATO), to persuade policy-makers to address challenges and to devote resources on issues that are not perceived as urgent is a task similar to that of *Sisyphus* in Greek mythology.

While power has once been defined by Deutsch (1996) as not having to learn, during the 20th century the resistance to *anticipatory learning* by those who control the resources over outcomes has been significant. It often required severe foreign policy and domestic crises to launch major reassessments of foreign and security policies and fundamental revisions. To reduce the perception of security challenges in the

Mediterranean to a single threat of terrorism and the counterstrategy solely to a “war against terrorism” may lead to a strategic reductionism, Ken Booth (1979, 1987, 1998) has warned against in his analyses on prevailing Machiavellian, Hobbesian or realist mindsets. One aim of this book is to challenge some prevailing mindsets, to remove barriers of misperception, and to contribute to a holistic learning that crises and conflicts will affect present and future generations in the Mediterranean.

Several scientists (Weizsäcker 1989; E.O. Wilson 1998) have described the 21st century as the century of the environment. Edward O. Wilson (1998a) has referred to a growing *consilience*, i.e. the interlocking of causal explanations across disciplines, which implies that the interfaces of disciplines become as important as the disciplines themselves. Ted Munn (2002) argued: “that this interlocking amongst the natural sciences will in the 21st century also touch ‘the borders of the social sciences and humanities’”. In the environmental context, environmental scientists in diverse specialties, including human ecology, are more precisely defining the area in which that species arose, and those parts that must be sustained for human survival.” *Anticipatory learning* must acknowledge this need for a growing *consilience* that causal explanations across disciplines may contribute to new understanding and knowledge that will be needed to cope with the challenges of the ‘international risk society’ (Beck 1992, 1999).

1.5 Authors and Audience

This book has been edited by the five colleagues from three continents Europe: (Germany, UK), North Africa (Egypt and Tunisia) and North America, among them a former director of the School of Peace Studies at Bradford University, and a former US air force officer who teaches at the US Naval War College and who has also been writing poetry (dedication). The authors come from the *southern* (Chourou, Kadry Said, Nasr, Sari, Selim, Yassin), the *eastern* (Abu-Jaber, Aydin, Kam, Twite) and *northern* shore (Alexandratos, Belén, Collomb, de Santis, de Wenden, Dumay, Garrido, Georges, Georgas, Mainguet, Marquina, Mendizábal, Politi, Puigdefábregas, Sanz) of the Mediterranean, from other EU countries (Allan, Amineh, Bolle, Brauch, Sir Crispin Tickell, Dombrowsky, Goldammer, Grin, Haavisto, Köhler, Møller, Peichert, Scheumann), from other NATO countries in Europe (Gleditsch, Mesjasz) and from

North America (Dean, Kahl, Laipson, Liotta, Lund, VanDeveer, Westing), as well as from Croatia (Bošnjakovic) China (Guang), Japan (Oka) and Mexico (Zlotnik). While the majority of the authors are working as scientists at universities and research institutes, some have been working for international organisations (EU, UNECE, FAO, NATO, UN), for national governments, for NGOs or other private institutes. The authors were trained as political scientists, lawyers, economists, geographers, demographers, engineers, meteorologists, physicists, and as soil and desertification specialists. Due to these professional backgrounds the styles of the contributions differ.

This book is conceived as a basic text for undergraduate and graduate seminars in international relations, regional studies, in security and environmental studies, and for interdisciplinary seminars around the Mediterranean, and elsewhere with an interest in the region and issues covered. The book is of relevance for university institutes in *political science*, international relations, security studies, environmental studies, peace research, conflict studies, war studies, for *regional studies*, on the Mediterranean, North Africa, and Middle East; *geography* (climate, water, food, desertification issues); *demography* (population growth, urbanisation); *climatology* (climate history, climate change impact); *geosciences* (climate change, desertification, precipitation etc.); *economics* (globalisation and security); *business* (energy industry); but also for international organisations: UN, UNEP, UNU, NATO, European institutions (Commission, Parliament, foreign ministries and for participants in the Euro-Mediterranean security dialogues (EU, NATO, OSCE, WEU), and for *environmental* NGOs operating in this region.

1.6 The Editorial Process

Two levels of quality control were used in the selection of the authors and during the editorial process. All chapters have been commissioned by the co-chairmen of the Canterbury workshop and the co-editors, taking the advice of distinguished experts into account. At the Canterbury Workshop in September 2001, all chapters were commented on by discussants and the audience. This process differed from scientific journals to which any author may submit papers. All chapters have been reviewed by at least two colleagues, and those by the lead-editor by additional outside reviewers. The authors were encouraged to comment on each other's papers by Email. A goal pa-

per of the Canterbury workshop outlined the scientific purpose.³ All chapters have been revised at least once. While the editorial procedure differed from that of journals, the two levels of quality control are similar to peer reviewed journals.

1.7 Content of the Book

The book is structured into thirteen parts and an appendix. Part I offers three introductory chapters on the first three stages of the debate on environment and security linkages (Hans Günter Brauch), on national and international conflicts in the Mediterranean (Frank R. Pfetsch) and on efforts at conflict prevention of relevance for the Mediterranean (Michael Lund). In part II Nicola de Santis (NATO) reviews the evolution of NATO's Mediterranean Security Dialogue, while Ellen Laipson (U.S.A.) discusses the future of NATO's Mediterranean Initiative and Maj. Gen. (ret.) Kadry Said (Egypt) offers a Southern perspective while Maj. Gen. Félix Sanz (Spain) provides an assessment of this security dialogue. Finally, Michael Köhler (European Commission) reviews the security concept of the EU for the Mediterranean.

In Part III on conceptualising security in the North, Hans Günter Brauch (Germany) analyses different worldviews and mindsets of decision-makers on the Mediterranean while Mehdi Parvizi Amineh and John Grin (The Netherlands) discuss the new regionalism as a Grotian approach to security, development and democracy in the region. Bjørn Møller (Denmark) reviews four levels of security analysis: global, national, societal, and human security with a case study on the Middle East and Czesław Mesjasz (Poland) analyses economic and financial globalisation and its consequences for security in the early 21st century. P. H. Liotta (U.S.A.) revisits military security concepts and their applications to the Mediterranean and Antonio Marquina (Spain) discusses the political security concepts of security partnership and cooperative security for the Mediterranean.

In part IV on conceptualising security and non-military security challenges from Southern perspectives, Béchir Chourou (Tunisia) offers a conceptualisation of security from the Maghreb, Mohammed El-

3 A specific website was developed for the Canterbury workshop that contained detailed information on the definition of the region, on the goals and literature at: <<http://www.afes-press.de/html/canterbury.htm>>. A collection of links was offered at: <http://www.afes-press.de/html/mediterranean_links.html>.

Sayed Selim (Egypt) discusses different approaches in Arab Mashreq countries, Mustafa Aydin (Turkey) conceptualises the security of Turkey while Ephraim Kam (Israel) reviews these efforts in Israel.

In part V, Hans Günter Brauch analyses the evolution and current debate on missile defence programmes in the U.S. until October 2002 and Vicente Garrido and Belén Lara (Spain) assess the perceptions of a missile threat and of missile defences in Southern Europe. Alessandro Politi (Italy) analyses the soft security challenges of terrorism and drugs while Catherine Withol de Wenden (France) offers a critique of the analysis of migration as an international and domestic security issue.

Part VI turns to the second theme by focusing on a review of environmental security concepts. Stacy D. VanDeveer (U.S.A.) offers an assessment of concepts and empirical results on environmental security and their relevance for the Mediterranean, while Colin Kahl (U.S.A.) draws lessons for the Mediterranean in his review of the political ecology of violence. Finally, Nils Petter Gleditsch (Norway) contrasts two opposite views on environmental conflicts.

In part VII on the environmental consequences of wars in the Mediterranean (1940-2000) Hans Günter Brauch reviews the evolution of international humanitarian law, of arms control agreements, international environmental law and human rights instruments, and offers an introduction to five case studies focusing on World War II (1942), the second Gulf war (1991), the wars in the Balkans in the 1990's, and on the Middle East conflict. Maj. Gen. (ret.) Kadry Said (Egypt) deals with landmines and unexploded ordnance (UXO) left behind in Egypt after the battle of El Alamein in 1942 and their impact on human, economic and environmental development, while Arthur Westing (U.S.A.) reviews the impact of the second Gulf War on the environment of Kuwait and Iraq, and Pekka Haavisto (UNEP, Finland) assesses the environmental consequences of the wars in the Balkans. Hiroshi Oka (Japan) analyses the multilateral environmental talks in the Middle East peace process while Robin Twite (U.K., Israel) reviews the effects of the current conflict on the environment of Israel and the Occupied Palestinian Territory.

In part VIII on population growth and climate change, Hania Zlotnik (Mexico) analyses the population growth and urbanisation in the Mediterranean from 1950 to 2000 while Hans-Jürgen Bolle (Germany) reviews 5,000 years of climate history and Dimitri Georgas (Greece) assesses four generations of UNEP

case studies on climate change in the Mediterranean (1900-2000).

In part IX on desertification in the MENA region as causes of conflicts, Mamdouh Nasr (Egypt) reviews the desertification in Mashreq countries in the 20th century, while Monique Mainguet in cooperation with Frédéric Dumay and Jean-Christophe Georges (France) and Han Guang (China) analyse why desertification accelerated in the Sahara-Sahel of Mauritania and in the Chinese deserts in the last century, and Teresa Mendizábal and Juan Puigdefábregas (Spain) cover problems of desertification in Southern Europe and in the Maghreb.

In part X on water scarcity in the MENA region Tony Allan (U.K.) offers a theoretical introduction on water security in the Middle East and the Mediterranean, while Branko Bošnjakovic (Croatia) presents a joint evaluation of UNECE, UNECA, UNESCWA and UNESCO on groundwater resources in the Mediterranean. Ines Dombrowsky (Germany) discusses prospects for cooperation in the Jordan river basin, while Waltina Scheumann (Germany) reviews whether the water issue causes stress for the Turkish Syrian relations and Henrike Peichert (Germany) analyses the hydrogeopolitics in the Nile River Basin.

In part XI on food shortages and urbanisation Philippe Collomb (France) discusses linkages between population growth and food security in the MENA Region, while Nikos Alexandratos (Greece) analyses the basic food and Mediterranean products of countries in the Mediterranean and their role on world food markets. Béchir Chourou (Tunisia) discusses the implications of declining food supplies for food security vs. market economy and Djilali Sari (Algeria) reviews the increasing urbanisation in the MENA region as cause of conflicts.

In part XII, Hans Günter Brauch offers a comprehensive and systematic overview of natural disasters that struck the Mediterranean region from 1900 to 2001 and reviews the cooperative efforts in responding to this most likely linkage of environment and security. Johann Goldammer (Germany) focuses on the practical international cooperation in managing forest fires in the Mediterranean eco-region. Finally, in part XIII the editors offer their conclusions on environmental change, as well as security, and its implications for conflict resolution and prevention.

After the contributors and themes of this volume are introduced, it seems equally important to stress the conceptual and scientific *linkages* that are interwoven throughout. As numerous contributions illustrate, these intertextual connections suggest that se-

curity and the *environment* were cross-influenced in the 20th century and may increasingly be interdependent stimuli in the 21st century. Parts I-VII of this volume thus deal specifically with the conceptualisation of environment and security and clearly demonstrate how difficult conceptual “shifts” can be.

Just as the administration of G. W. Bush initially declared (prior to 11 September 2001) that the Cold War was now part of the past and the strategic significance of Europe and the Mediterranean would inevitably decline (and the significance of Asia and the Pacific inevitably rise), the reality proved otherwise. Indeed, both Americans and Europeans were forced to deal with the issues of Mediterranean security, and the unresolved issues that concerned the region. As Brauch, Pfetsch, and Lund argue in the opening chapters, a successful policy agenda demands recognising *linkages*, working to reduce *vulnerabilities*, and acting purposefully - and with sufficient pre-emption - in *conflict prevention*.

Equally, as critical observers might note, there is an opportunity for intra-regional cooperation between Europe and the MENA that has not been so clearly present since the end of the Second World War. This is partially due to the demise of Cold War tensions and the reorientation of NATO towards alliance issues *other* than collective defence. Further, the United States has come to be regarded in the international security environment as the “outlier” on any number of security issues. Specifically, the U.S. withdrew support for a number of international agreements such as the ban on landmines, international “control” of suspected war criminals (Rome Treaty), the Kyoto Protocol on climate change, the Comprehensive Test Ban Treaty, the Anti-Ballistic Missile Treaty, the July 2001 rejection of the UN draft accord on the control of small arms, and the rejection of the Biological Weapons Protocol. Indeed, until post-11 September 2001, the U.S. had more often than not *lost* credibility for securing “international” interests at the expense of “national” interests.

In the absence of direct or focused U.S. involvement in the Euro-Mediterranean, nevertheless, there have arisen multiple fora and dialogues that embrace and mean to further Euro-Med cooperation. As de Santis, Laipson, Kadry Said, and Köhler note, however, in their individual and collective contributions, the various dialogues (OSCE, WEU, NATO, EU) that take place in the Mediterranean offer unique, if somewhat contradictory, promise. The authors clearly agree that a refinement and a streamlining of these dialogues

are necessary, but *how* to refine and streamline remains an unsolved puzzle.

What seems most logical for the ongoing Mediterranean security dialogues is the need for closer coordination among participants and more specific focus on desirable outcomes. At the most basic conceptual level, any overlapping dialogues in future regional or sub-regional dialogues might thus centre on a “hub and spoke” model for future coordination among different organisations in the Mediterranean. As such, the time for an OSCE model - in effect, an Organization for Security and Cooperation in the Mediterranean based on partnership building measures (PBMs) and partnership building projects (PBPs) - may well have come.

Before such integration can occur, however, there must be more commonly agreed upon conceptualisations of security - both in the North and in the South, and *between* the North and the South. Thus, Brauch powerfully argues in chapter 10 on the need for a pragmatic “Grotian” perspective on cooperation - a kind of “third way” for international relations in the Euro-Mediterranean. Amineh and Grin effectively add to this dynamic in their post-modern critique of critical geopolitics and assessment of how a Grotian framework for security, development, and democracy in the Mediterranean might operate. Mesjasz, Liotta, and Marquina complement these arguments with their analyses of economic, military, and political security aspects in the region, and repeatedly reveal how these security aspects are also clearly interdependent.

Complementing these analyses, however, are equally powerful Southern approaches, not always in parallel with Northern perspectives. Thus, the contributions of Chourou, Selim, Aydin, and Kam represent some of the most critical observations in this volume. In particular, these chapters detail how the critical environmental and security linkages for the Maghreb, Mediterranean Arab countries, Turkey, and Israel are most definitely not in alignment. And even as these linkages are individually and collectively pivotal, the challenges for assessing and addressing these security issues are still unsatisfactory, to date. While some observers might insist that it remains impossible to consider the Mediterranean as a geopolitical “whole,” the concept of Euro-Mediterranean cooperation further disaggregates when the competing notions of security - “hard” versus “soft,” human security vs. state security, the struggle between cultural integrity and economic interdependence - begin to threaten the entire strategic construct. Indeed, to even *envision* a system architecture that could ensure a more

certain Euro-Mediterranean relationship, particularly in terms of the “North-South” dynamic, seems problematic. That, nonetheless, is the challenge that this volume presents.

The reality remains, nonetheless, that Europe and the Mediterranean are *not* simply divided by a North-South chasm. Moreover, there are common security challenges and dilemmas that have emerged in the Euro-Mediterranean that would seem to demand common approaches and common action. Such communal approaches, rather than focusing on a realist-based state-to-state interaction, acknowledge changing patterns of information diffusion and decision making, and rely on transnational relationships, state administrators, and international institutions. While Brauch, Belén, and Garrido address more “traditional” (*hard* security) issues in examining missile defence programmes and perceptions of missile “threats” in the region, Politi and Withol de Wenden provide extended examinations of “non-traditional” (*soft security*) issues such as terrorism and drugs, and the impact of migration on domestic and international security.

Completing the conceptual contributions of the volume are significant pieces from three of the most interesting and provocative experts working on contemporary environmental security analysis. Although relatively young as researchers, VanDeveer and Kahl offer specific, detailed, and rigorous examinations of the conceptualisation and the empirical evidence for conflict and ecological disruption, with specific implications for the Mediterranean. While their work correctly points to the necessity for regional-specific “fourth wave” research, Gleditsch, a well-established peace researcher, offers a useful background to the understanding of the different levels and the different policy uses for security issues. These three chapters usefully encapsulate the themes of the previous contributions, while also emphasising the continuing security dilemma of states and the emerging survival dilemmas of peoples in the Euro-Mediterranean. While the focus in the short-term may shift to foreground emphasis on state security, the back plane importance of issues such as population growth, resource scarcity and depletion, technology shifts, proliferation, identity and governance, and economic geography will continue. We simply must not run the risk of ignoring the challenges that lie ahead.

What is clear is that the Mediterranean region is representative of most of the major environmental problems that are going to be facing the wider human community in the coming decades. These include factors such as problems in the hydrological cy-

cle, soil erosion, and food security, as well as more directly human-related factors such as demographic change including urbanisation. Over all of these, the longer-term effects of climate change could be fundamental, but the complex of factors affecting the human community of the Mediterranean is significant for two further reasons.

The first is that substantial parts of the region are at the margins of productive land use and also have fragile environments liable to rapid deterioration as a result of climate change and more localised effects of human activity. Much as the largely uninhabited polar regions are demonstrating early signs of climate change, not least with permafrost deterioration and rapid changes in sea ice, so many of the lands of the Mediterranean are likely to give early warnings of more direct impacts on human communities.

The second is that the Mediterranean region is one of immense socio-economic contrasts, largely divided into a split between wealthy states of the north and north-west, and much more impoverished states of the south and east. While there are exceptions to this pattern, it is very largely valid and implies a risk of the elite states seeking to separate themselves off from what they might see as an impoverished and potentially threatening hinterland. This is a feature of social and political behaviour already evident in attitudes to migration, with an increasing concern, particularly within Western European political circles, over the effects of migratory pressures from North Africa and West Asia.

This perception of the Mediterranean as a potential barrier is shared, from a very different perspective, in Southern countries, where there is a substantial sense of division and even alienation, contrasting markedly with the many possibilities of cooperation across the region. The contrasting possibilities of cooperation or division lie at the heart of many of the contributions in this book, almost invariably within the context of the physical and biological factors examined by the various authors. In a range of studies, Bolle, Mainguet and others provide detailed analyses of climate trends, frequently demonstrating the marginality of ecosystems and their consequent fragility, and Brauch analyses the trends in a wide range of forms of environmental disaster and catastrophe. Zlotnik and Sari examine demographic trends, with an emphasis on the stages of the demographic transition and its impact on Southern Mediterranean countries, not least in terms of the very large proportion of young people.

The impact of agricultural commodity trade is analysed by Alexandratos, Collomb, Mendizábal, Puigdefábregas and others, and one factor that is significant is the problem of the deterioration of terms of trade and its impact on the poorer countries. The combination of the youth “bulge” and economic limitations on development is clearly of fundamental importance for the stability of many societies, but the text also offers many examples of attempts at cooperation, not least in approaches involving substantive environmental problems.

In many cases, the authors point to possibilities rather than achievements, and they also chronicle the experiences of attempts that may not have been successful but provide experience that is highly relevant to the future. In different ways, Bošnjakovic, Dombrowsky, Scheumann and Peichert explore such examples, as do Twite and others on specific Israeli and Palestinian issues. Goldammer examines the specific question of wildfire management.

The environmental effects of war are analysed by Westing and Kadry Said, with Westing providing a highly relevant account of the effects of the 1991 Gulf War. Kadry Said gives a salutary reminder of the longer term impacts through his study of the ongoing social and economic effects of minefields laid in North Africa some sixty years ago.

At the heart of these contributions, though, lies the theme of the potential for cooperation and the dangerous consequences of failing to realise this potential. The Mediterranean region has served as a crucible for a number of the world's major civilisations in the past, and it is now a key region for demonstrating the possibilities for cooperation that could have a significance for human communities across the world. This book seeks to explore such possibilities without underestimating the difficulties, seeking to offer a modest contribution to the wider process.

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