



Monday, March 14th, 2011, 5:00 pm - 6:30 pm
British High Commission, 80 Elgin Street, Ottawa

***Coping with Global Environmental
Change, Disasters and Security
Threats, Challenges, Vulnerabilities and Risks***

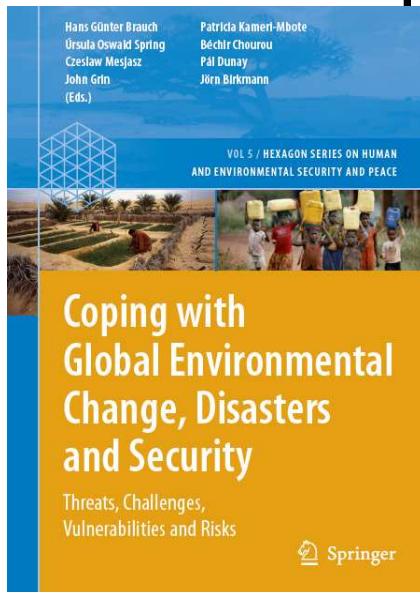
Hans Günter Brauch

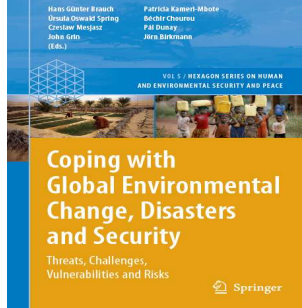
Adj. Professor, Free University of Berlin, Otto-Suhr Institute, Berlin

Chairman, Peace Research and European Security Studies

Editor, Hexagon Series on Human, Environmental Security & Peace

Senior Fellow, Institute on Environment and Human Security of United Nations
University (UNU-EHS), Bonn





Contents

1. Reasons for Security Reconceptualization
2. **Hexagon Series**: Human, Environmental Security and Peace (**HESP**)
3. Global Environmental & Human Security Handbook for Anthropocene (**GEHSHA**)
4. **Coping with Global Environmental Change, Disasters and Security Threats, Challenges, Vulnerabilities and Risks**
5. From Knowledge to Action: **Responsibility to Protect the Earth in the Anthropocene**

1. Reconceptualization of Security

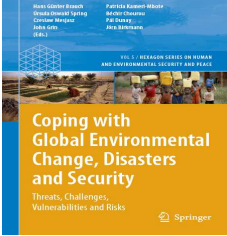
- Security concept has been reconceptualised and security interests & goals were redefined globally since 1990 due to
 - end of the Cold War in 1989 with fall of the Berlin Wall,
 - the process of globalization and its impacts (9/11, fin. crisis)
 - emerging impacts due to Global Environmental Change



Reunification of Germany
 Enlargement of the EU
 9/11/2011: 2752 people
 died: „war on terror“ →



29 August 2005: Hurricane
 Katrina: 1838 deaths (official)
 Securitization of 9/11 and
 nonsecuritization of GEC &
 climate change impacts

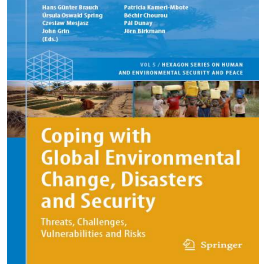


1.1. Changing Security Concepts

This reconceptualization of Security has resulted in a

- **widening** from the narrow military and political dimensions to economic, societal and environmental dimensions;
- **deepening** from the ‘state-centred’ to ‘human centred’ concepts of human security both upward from national to regional, international and global security and downward to community and people’s or human security;
- **sectorialization** to energy, food, water, health, soil, livelihood, climate and other security concepts that have been used by international organizations and scientists to upgrade the urgency of their respective activities or fields.

Security dimension⇒ ↓ Level of interaction	Mili- tary	Political	Economic	Environ- mental ↓	Societal
Human individual ⇒			Food sec. Health sec.	Cause & Victim	Food sec. Health sec.
Societal/Community				↓↑	
National	shrinking		Energy se.	↓↑	Food,health
International Regional			Water security	↓↑	Water security
Global/Planetary ⇒				GEC	



1.2. Environmental & Human Security

Expanded Security Concepts

Label	Reference object	Value at risk	Source(s) of threat
National security	The State	Territ. integrity	State, sub-state actors
Human security	Individual, humankind	Survival	Nature, state, globalization
Environmental security	Ecosystem	Sustainability	Humankind

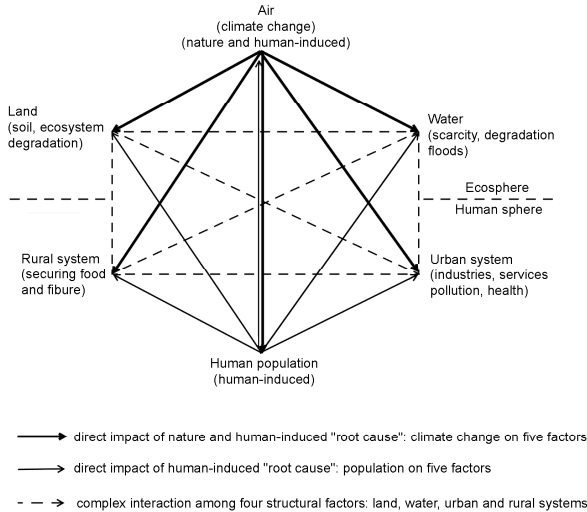
Canadian and British contributions:

Human security: Canada: founding member of Human Security Network, tabled „human security“ & responsibility to protect to UNSC (Axworthy)

Environmental security: Toronto Group, Th. Homer-Dixon (1991-2000)
work of Simon Dalby (eco-geopolitics and political geoeology)

Climate Security: UK, M. Beckett, 17.4.2007: tabled climate change to UNSC

2. Hexagon Book Series on Human and Environmental Security and Peace



Hexagon book series offers platform for scientific communities on

- global environmental & climate change, disaster reduction, human, environmental, gender security,
- Peace, security, development & environmental studies
- for the humanitarian aid and the policy community in national governments and international organizations.

GEC (Ecosphere)supply side

- Air: Global climate change
- Soil degrad., desertification
- Water scarcity, hydrol. cycle
- Biodiversity

Human-induced (Anthroposphere) demand side

- Population growth
- Urbanization, Pollution, Health
- Rural systems: Agriculture
- Socio-economic processes

Scientific & Policy Goals:

- Impacts of anthropogene global environmental & climate change on the security of states & human beings (humankind)

Multi-, Inter- & Transdisciplinarity:

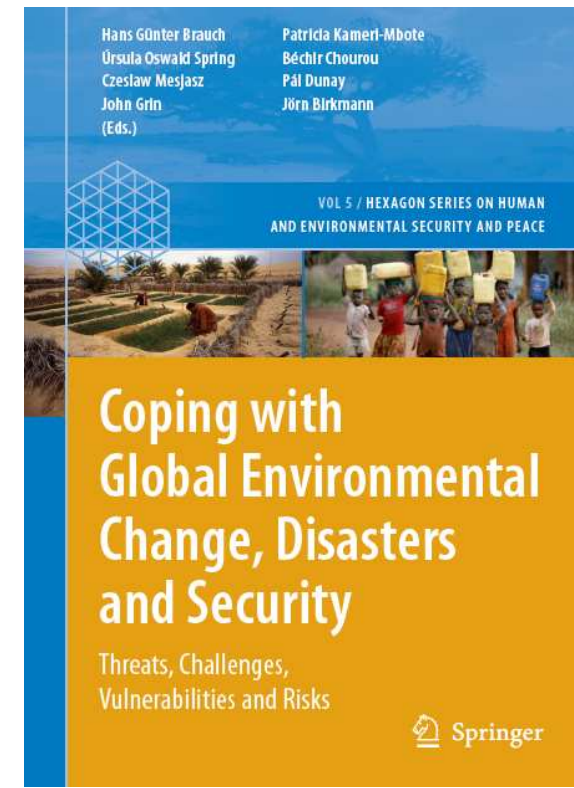
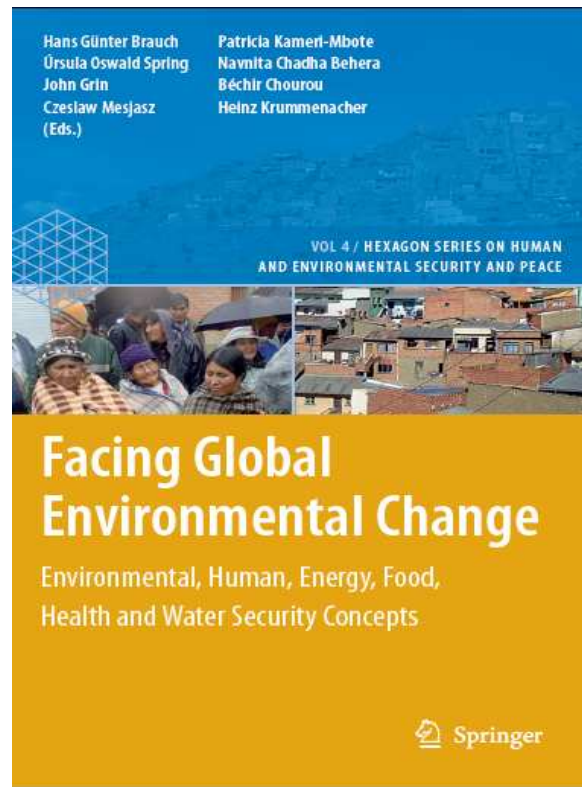
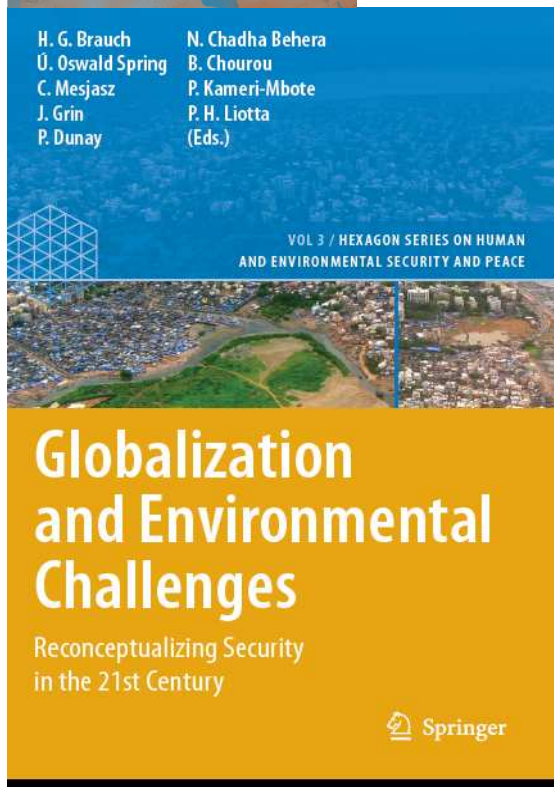
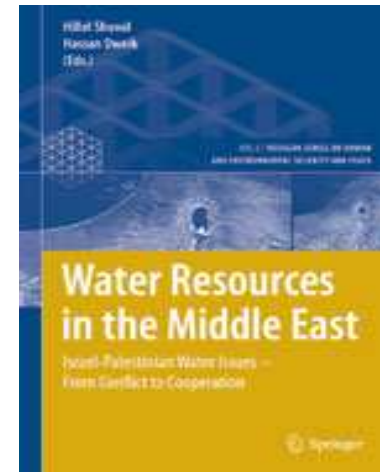
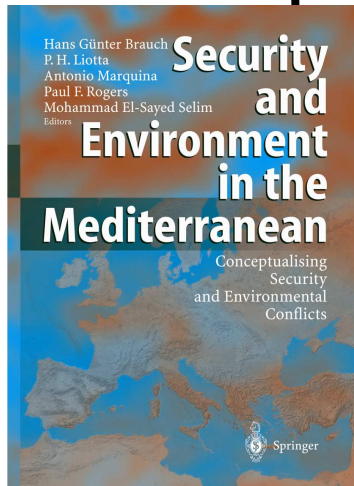
International and Diversity

Dialogue: scientists and policy-makers

2.1. Hexagon Series: Volumes I-V

<http://www.afes-press-books.de/html/hexagon.htm>

coeditors from
Egypt, Israel, Palestine, Tunisia
India, Kenya, Mexico





2.2. Hexagon Series: Volumes VI - X in Preparation

To be published in 2011

- **Vol. 6:** ThanhDam Truong, Des Gapter (Eds.): *Transnational Migration: The Migration - Development – Security Nexus*.
- **Vol. 7:** Úrsula Oswald Spring (Ed.): *Water Resources in Mexico*.
- **Vol. 8:** Jürgen Scheffran, Michael Brzoska, Hans Günter Brauch, Peter Michael Link, Janpeter Schilling (Eds.): *Climate Change, Human Security and Violent Conflict: Challenges for Societal Stability*

To be published in 2012

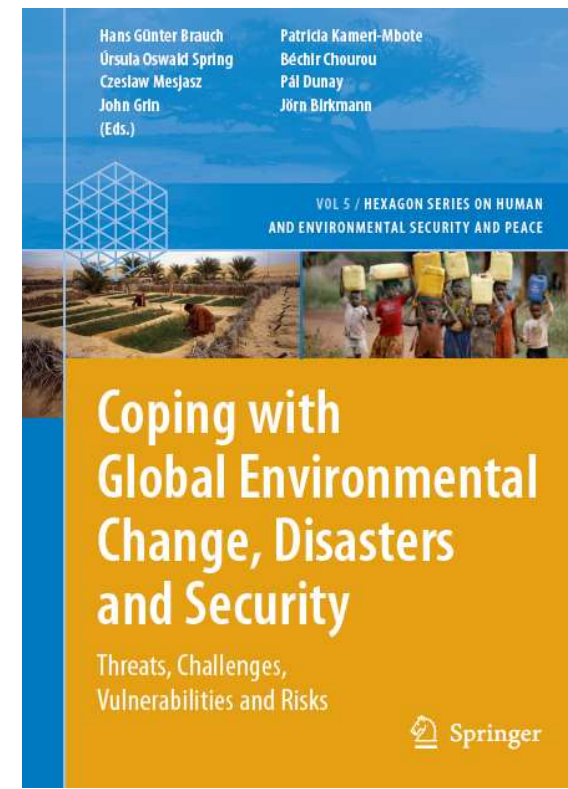
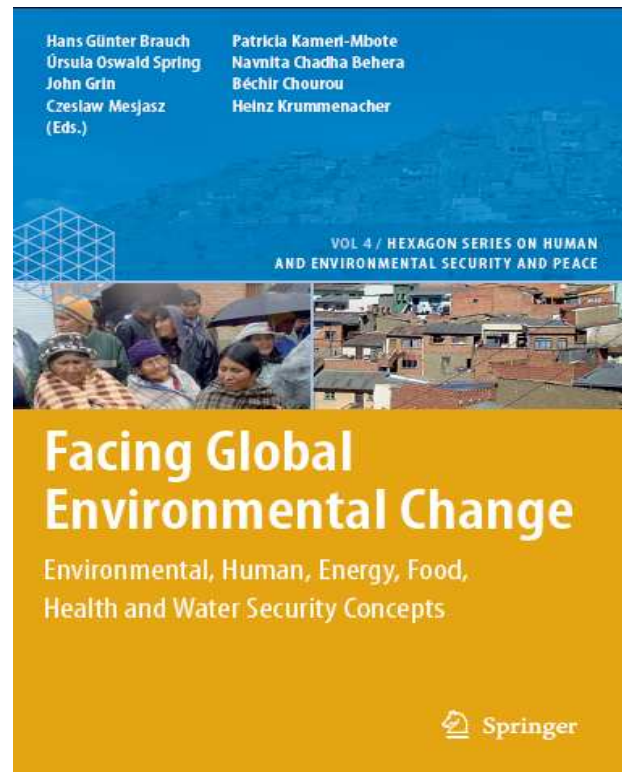
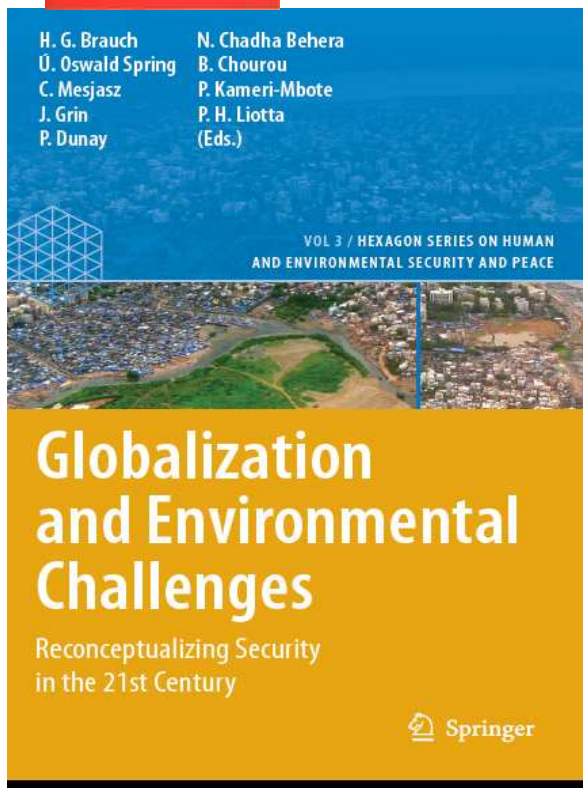
- **Vol. 9:** Czeslaw Mesjasz: *Stability, Turbulence or Chaos? Systems Thinking and Theory and Policy of Security*
- **Vol. 10:** Hans Günter Brauch: *Global Environmental and Human Security Handbook for the Anthropocene - Synthesis and Summary for Policymakers*

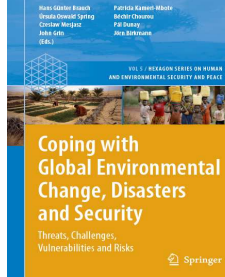
3. Global Environmental and Human Security Handbook for the Anthropocene (GEHSHA)

Vol. 3 (1): Globalization and Environmental Challenges: 92 authors, 36 countries, 16 disciplines, (2008)

Vol. 4 (2): Facing Global Environmental Change: 132 authors, 49 countries on global debate and problems of environmental, human, energy, food, health, water security (2009)

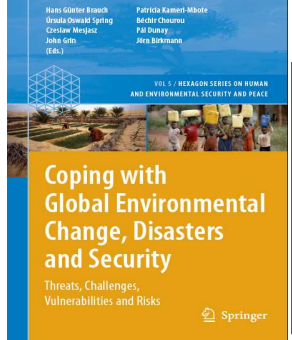
→ Vol. 5 (3): Coping with Global Environmental Change: Disasters and Security – Threats, Challenges, Vulnerabilities and Risks 164 authors, 48 countries (2011).





3.1. Editorial Team: 11 Co-editors from 10 Countries

- **Hans Günter Brauch**, PD (Adj. Prof.) at the Free University of Berlin, chairman of AFES-PRESS, fellow at UNU-EHS in Bonn and editor of this series
- **Úrsula Oswald Spring**, Professor at National University, Mexi-co; UNU-EHS chair on social vulnerability; writes on sustainability, deveopment, gender, disaster, poverty.
- **Czeslaw Mesjasz**, Assoc. Professor, Vice Dean, Cracow University of Economics; publishes on systems, game theory, conflict resolution, negotiation, economics, security.
- **John Grin**, Professor, Director of Amsterdam School for Social science Research; publi-shes on societal transformations in water management, agriculture, health care.
- **Navnita Chadha Behera** (New Delhi), Professor at the Nelson Mandela Centre for Peace & Conflict Resolution, Jamia Millia Islamia; publishes: Kashmir, South Asian security
- **Pál Dunay** is faculty member, Geneva Centre for Security Policy, was senior researcher at SIPRI (2004-2007),director of the Hungarian Institute of International Affairs in 2007.
- **Béchir Chourou** teaches International Relations at the University of Tunis-Carthage in Tunisia,publishes on Euro-Mediterranean relations, food policy, human security.
- **Patricia Kameri-Mbote**, Professor, School of Law, Strathmore University in Nairobi, Chair, Dep. of Private Law, Programme Director, Intern.Environmental Law Research Centre,
- **P. H. Liotta** is Professor of Humanities and Executive Director of the Pell Center for Inter-national Relations and Public Policy, Salve Regina University, Newport, Rhode Island
- **Heinz Krummenacher** is managing Director of Swisspeace, heads its early warning program and is member of the UN staff college's Early Warning Preventive Measures training unit.
- **Jörn Birkmann**, Academic officer of UNU-EHS, heads the section on vulnerability assessment, coordinates Working Group on “Measuring Vulnerability”.



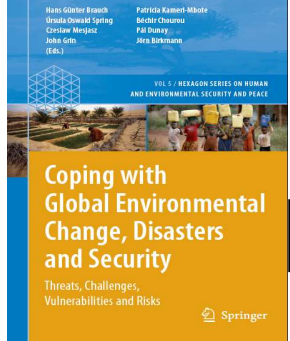
3.2. Authors of Forewords & Preface Essays

Forewords by

- **Achim Steiner**, Executive Director of UNEP, UN Under-Secretary-General
- **Konrad Osterwalder**, Rector, UNU, UN Under-Secretary-General
- **Jean-Francois Bureau**, Assistant Secretary General, NATO
- **Joy Ogwu**, Permanent Representative at UN, former Foreign Minister of Nigeria;
- **HRH Prince Hassan Bin Talal of Jordan**

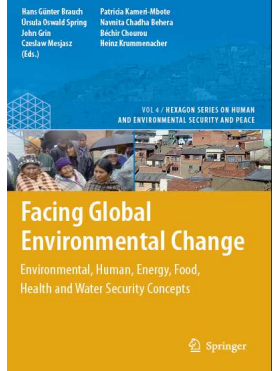
With Preface Essays by

- **Professor Dr. Paul C. Crutzen**, Nobel Laureate in Chemistry, Max-Planck Society for the Advancement of Science, Mainz; His Excellency
- **Ambassador Jayantha Dhanapala**, President, Pugwash Conferences on Science and World Affairs, recipient of the Nobel Peace Prize 1995;
- **Professor Dr. Ulrich Beck**, University of Munich and LSE;
- **Dr. Hania Zlotnik**, Director, UN Populations Division, United Nations, New York;
- **Dr. Christoph Müller**, **Dr. Hermann Lotze-Campen**, **Dr. Veronika Huber**, **Dr. Alexander Popp**, **Dr. Anastasia Svirejeva-Hopkins** (Canada), **Mr. Michael Krause** and **Prof. Dr. Hans Joachim Schellnhuber**, Director, Potsdam Institute of Climate Impact Research.



3.3. Spreading the Global Messages: Translation & Bookaid

- **Translations:** Spanish, Turkish & Greek (others are possible depending on local partners)
- **Bookaid Project:**
 - **2004:** 260 books to more than 90 countries
 - **2008:** Modest Start: Local Savings Bank & author
 - **2009:** 100 copies purchased/distributed by DAAD
 - **2010:** 150 copies of vol. 1 & 2 of GEHSHA to 110 University and National Libraries in 69 countries in Africa, Asia & Latin America (value of 40.000 €)
 - **2011:** Fundraising: for sending 200 books



4. Structure & Themes of this Book:

Concepts, Coping Strategies & Tools

I: Introduction (chap. 1-5)

II: Regional Political and Military Security Dangers and Concerns (ch. 6-19)

III: Economic, Social, Environmental and Human Security Dangers in the Near East, Africa and Asia (ch. 20-28)

IV: Threats, Challenges, Vulnerabilities and Risks for Urban Centres in Hazards and Disasters (ch. 29-39)

V: Coping with Climate Change, Soil and Desertification, Water Management, Food and Health (ch. 40-67)

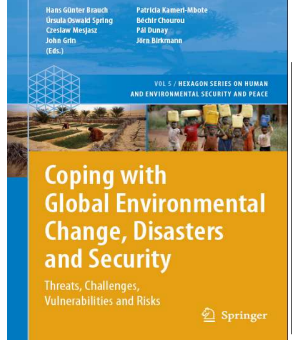
VI: Coping with Hazards, Social Vulnerability and Resilience Building (ch. 68-72)

VII: Coping with Global Env. Change: Scientific, International and National Political Strategies, Policies and Measures (ch. 73-89)

VIII: Remote Sensing, Vulnerability Mapping and Indicators of Env. Security Challenges (ch. 90-91)

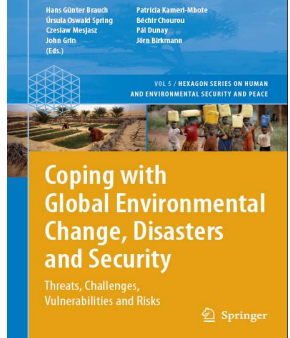
IX: Towards an Improved Early Warning of Conflicts and Hazards (92-93)

X: Summary and Conclusions (ch. 94-95): Talks of Oswald Spring & Dalby



4.1. Focus: Mediterranean Security & North Africa

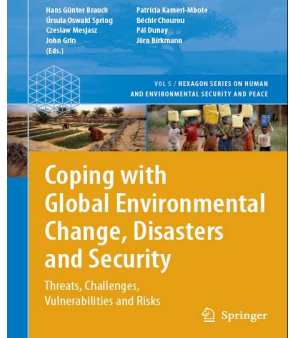
- **Eduard Soler i Lecha:** European Responses to Security Threats in the Mediterranean in the Early 21st Century
- **Gamal M. Selim:** Perceptions of Hard Security Issues in the Arab World
- **Mohammad El-Sayed Selim:** Arab Perceptions of Soft Security Issues
- **Béchir Chourou:** Environmental Challenges and Risks in North Africa
- **Hans Günter Brauch:** Global Climate Change Impacts for the Mediterranean in the 21st Century: Challenges for Human and Environmental Security
- **C. Buontempo, J. K. Lørup, M. Sanderson, M. Butts, E. Palin, R. McCarthy, R. Jones, R. Betts and M. Antar:** Dealing With Uncertainties in Climate Change Impacts Assessments: A Case Study on the Nile Basin 765
- **Mohamed El Raey:** Mapping Areas Affected by Sea-Level Rise due to Climate Change in the Nile Delta Until 2100
- **Ismail Abd El Galil Hussein:** Desertification Process in Egypt
- **M. Mainguet, F. Dumay, L. Kabiri, B. Rémini:** Prodromes of Desertification in the Oasis of Tafilalet (Morocco) and Specific Local Solutions



4.2. Focus on Near/Middle East

Foreword: HRH Prince Hassan Bin Talal of Jordan

- ***Mustafa Aydin and Asli Toksabay Esen:*** Inside/Outside: Turkey's Security Dilemmas and Priorities in the Early 21st Century
- ***Bassam Ossama Hayek and Nisreen Daifallah Al Hmoud:*** Water Degradation as a Human Security Challenge in Jordan 395
- ***Marwan Haddad:*** Water Scarcity and Degradation in Palestine as Challenges, Vulnerabilities, and Risks for Environmental Security 409
- ***Hilmi S. Salem:*** Social, Environmental and Security Impacts of Climate Change on the Eastern Mediterranean 421
- ***Arie S. Issar:*** Progressive Development of the Water Resources of Israel and Palestine to Mitigate the Negative Impact of Global Warming
- ***Mohammed S. Dajani Daoudi and Ashraf M. Dajani:*** Jerusalem: Where To? In Search for Hidden Opportunities
- ***Uriel N. Safriel:*** Alternative Livelihoods for Attaining Sustainability and Security in Drylands

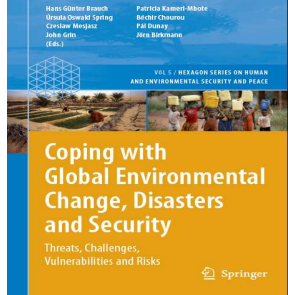


4.3. Focus on Africa

Foreword: Amb. Prof. Dr. Joy Ogwu (Nigeria)

Coeditor: Prof. Dr. Patricia Kameri-Mbote (Kenya)

- ***Kwesi Aning and Andrews Atta-Asamoah (Ghana):*** Military Challenges and Threats in West Africa
- ***John Emeka Akude (Nigeria/Germany):*** Weak States and Security Threats in West Africa
- ***Adeniyi Sulaiman Gbadegesin, Felix Bayode Olorunfemi and Usman Adebimpe Raheem (Nigeria):*** Urban Vulnerability to Climate Change and Natural Hazards in Nigeria
- ***Abdelkader Dodo (Niger), Mohamedou Ould Baba Sy (Mauritania) and Jihed Ghannem (Tunisia):*** Coping with Water Scarcity in the Sahel: Assessing Groundwater Resources in the Western Sahel
- ***Issa Martin Bikienga (Burkina Faso):*** Natural Disasters and Major Challenges towards Achieving Food Security in the Sahel: Experience of CILSS

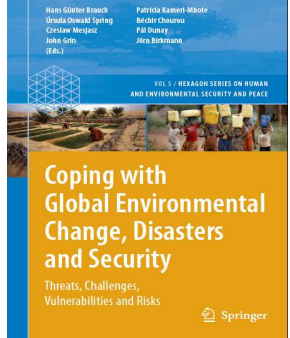


4.4. Focus on South Asia

Coeditor (I & II): Navnita Behera Chadha: Delhi University

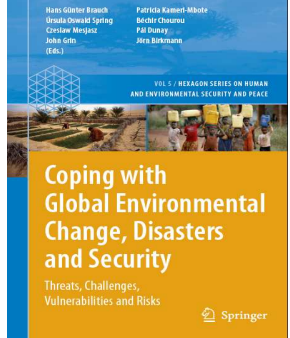
Preface Essay: Amb. Jayantha Dhanapalla (Sri Lanka)

- ***Monalisa Chatterjee:*** Flood Loss Redistribution in a Third World Megacity: The Case of Mumbai
- ***Reena Singh:*** Coping with Water- and Wastewater-related Risks in Megacity Delhi
- ***Nanda Kishor:*** Politics of Displacement and Vulnerability
- ***Debarati Guha-Sapir and Femke Vos:*** Quantifying Global Environmental Change Impacts: Methods, Criteria and Definitions for Compiling Data on Hydro-meteorological Disasters
- ***Zafar Adeel:*** Societal Vulnerability to Desertification and Policy Response Options
- ***Mohammed Rahman Zillur (Bangladesh); Kuntala Lahiri-Dutt (India):*** Ensuring Water Security in Rural Areas of Bangladesh under Climate Change and Non-climatic Drivers of Change
- ***Kanupriya Harish and Mathews Mullackal:*** Applying Bottom-up Participatory Strategies and Traditional Methods of Water Harvesting in the Thar Desert, Rajasthan
- ***Sreeja Nair:*** Responding to Climate Variability and Change: Opportunities and Challenges for Governance



4.5. Focus on China & Japan

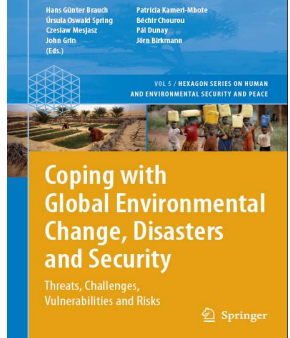
- **Zhongqin Zhao:** Non-Traditional Security and the New Concept of Security of China
- **Xiaomeng Shen:** Linking Oriental and Western Thinking to Mitigate Flood Risk
- **Zhanyi Gao and Yaqiong Hu:** Coping with Population Growth, Climate Change, Water Scarcity and Growing Food Demand in China in the 21st Century
- **Paul G. Harris:** Coping with Climate Change in East Asia: Vulnerabilities and Responsibilities
- **Yu Hongyuan and Paul J. Smith:** Climate Change: Long-Term Security Implications for China and the International Community
- **Hiroshi Ohta:** Japanese Climate Change Policy: Moving Beyond the Kyoto Process
- **Norichika Kanie, Hiromi Nishimoto, Yasuaki Hijioka and Yasuko Kameyama:** Implications of Equity Considerations and Emission Reduction Targets: Lessons from the Case of Japan's Mid-Term Target



4.6. Latin America & Mexico

Ursula Oswald Spring (Meixco): coeditor of 3 volumes (author of 2 ch., co-auth. 4 ch.):

- Genetically Modified Organisms: A Threat for Food Security and Risk
- for Food Sovereignty and Survival Social Vulnerability, Discrimination, and Resilience-building in Disaster Risk Reduction
- **Omar D. Cardona (Columbia):** Disaster Risk and Vulnerability: Concepts and Measurement of Human and Environmental Insecurity
- **Omar Serrano (Mexico):** Promoting Democracy as a Security Goal. The 'inward-outward' Paradox of the EU's Foreign Policy
- **Mabel C. Marulanda, Omar D. Cardona and Alex H. Barbat (Colombia):** Revealing the Impact of Small Disasters to the Economic and Social Development
- **Carmen Lacambra and Kaveh Zahedi (Colombia):** *Climate Change, Natural Hazards and Coastal Ecosystems in Latin-America: A Framework for Analysis*
- **Tulio Arredondo Moreno (Mexico; Elisabeth Huber-Sannwald: (Austria):** Impacts of Drought on Agriculture in Northern Mexico
- **Cecilia Conde (Mexico):** Coping with Climate Change Impacts on Coffee and Maize for Peasants in Mexico
- **Fátima Flores (Mexico), Wolfgang Wagner (Austria):** The Impact of AIDS on Women's Social Life in a Mexican Rural Community
- **Juan Carlos Villagrán de León (Guatemala):** *Risks in Central America: Bringing Them Under Control*
- **Ricardo Zapata-Martí (Mexico/Chile):** Strategies for Coping with Climate Change in Latin America: Perspective beyond 2012
- **Juan Carlos Villagrán de León (Guatemala):** Vulnerability Assessment in Sri Lanka in the Context of Tsunami Early Warning



4.7. Authors from and working in Canada

Globalization and Environmental Challenges (2008)

- **Simon Dalby:** Security and Environment Linkages Revisited
- **G.A. McBean:** Role of Prediction in Sustainable Development and Disaster Management

Facing Global Environmental Change (2009)

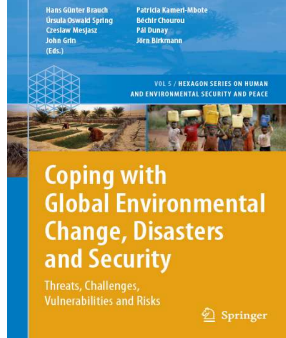
- **Simon Dalby**, (coauthored chapters with Douglas Orswald Spring & H.G. Brauch)
 - Environmental Security Concepts Revisited During the First Three Phases (1983-2006)
 - Linking Anthropocene, HUGE and HESP: Fourth Phase of Environmental Security Research
- **Homer-Dixon, Tom Deligiannis:** Environmental Scarcities and Civil Violence

Coping with Global Environmental Change (2011)

- **Simon Dalby** (co-author): Political Geoecology for the Anthropocene
- **G.A. McBean:** Coping with Global Environmental Change: Need for an Interdisciplinary and Integrated Approach
- **Gamal M. Selim:** Perceptions of Hard Security Issues in the Arab World



- **We are confronted with a paradox:**
 - Global consensus climate change is largely anthropogenic
 - Policy consensus to stabilize temperature increases due to GHG emissions at 2°C above preindustrial levels
- **G8 (Britain, Canada, France, Germany, Italy, Japan, Russia, US) agreed in 2007 - 2010 (in Canada)**
 - 50% reduction of GHG emissions by 2050
 - **80% for industrialized countries**
- **But climate negotiations failed in Copenhagen (2009) and Cancun (2010) to adopt a Post-Kyoto Strategy**



5.1. Security Risk & Climate Change: 3 Security Debates & Discourses

Climate change & internat. security debate & discourse

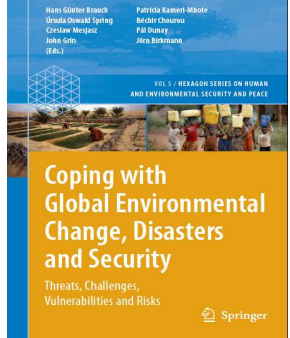
- **UN (17 April 2007):** FM M. Beckett, UK presidency
- **EU (2008):** EC & Council Study & roadmap process
- **UN GA (June 2009) Res.,** Report by Sec. General

Climate change & national security debate & discourse:

- **US studies:** CNA, CSIS, NIC (CIA), NSS 2010

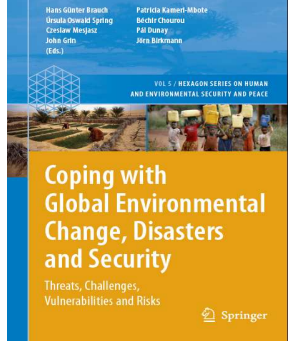
Climate change & human security debate & discourse

- **IHDP (GECHS): S. Lonergan & M. Brklacich (chairmen)**
 - 2005: conference in Norway on Climate change and human security
- **HSN (Canada was a co-founder & a major sponsor)**
- 2007/2008: Greek HSN presidency: May 2008 in Athens: **CC & HS**
- **2011-2014: IPCC, AR5, WG II, chapter on human security**



5.2. Security Policy in the Anthropocene: Towards a Sustainable Peace

- **Fourth phase of environmental security research**
 - Move from environmental scarcity, degradation and stress as cause of violence to GEC issues
 - Address the human dimension of environm. security
 - Reflect the HUGE impacts (add gender sensitivity)
- **Towards a Policy of Sustainable Peace**
 - Linkages between sustainable development & peace
- **Political Geoecology for the Anthropocene**
 - Earth systems science & geoecology lacks political dimens.
 - Geo: spatialization of the environmental dimension of IR
 - Ecology: linking natural science with human & social ecology



5.3. Canadian and British Political & Scientific Initiatives

○ Canadian Conceptual Pioneers:

- **Human Security Concept:** co-founder of Human Security Network & spread the message globally
- **Environmental Security Research:** Thomas Home-Dixon and Simon Dalby major global impulses
- **Canada and UK** put **human security** and **climate change** on the agenda of the United Nations Security Council

○ “Responsibility to Protect” the Earth from the physical & security impacts of climate change

- Deficits in implementation of the UNFCCC and of the Kyoto Protocol
- For Rio 2012 we need a human and environmental security strategy based on a **Responsibility to Protect the Earth in the Anthropocene**
- **Need to put knowledge into action for sustainability transitions**



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