1965 – 2015

50 שנה
ליחסים הדיפלומטיים
ישראל-גרמניה

50 Jahre
Diplomatische Beziehungen
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Sustainability and Peace-Building
July 13 – 14, 2015
Freie Universität Berlin

Tuesday, July 14. Senate Assembly Hall, Henry Ford Building, Garystraße 35, 14195 Berlin-Dahlem

12:00   **Session 4. *Sustainability and peace-building: the Middle East and beyond***

Chairs:

Hans Günter Brauch, Peace Research and European Security Studies, *Sustainability and peacebuilding in the Anthropocene*

Miranda Schreurs, Freie Universität Berlin, *Environmental Peace Building: Comparative Perspectives*

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Sustainable Peace in the Anthropocene

Abstract

This text tries to conceptualize possible and plausible linkages between the emerging **'sustainability transition' research paradigm** in studies on complexity, socio-technological and governance and the **conceptual debate on a rethinking of peace, security, development and the environment or ecology** in four separate research programmes since the end of the Cold War.

In the framework of a shift in earth history from the **Holocene to the Anthropocene** that has been taking place since the Industrial Revolution, most particularly during the past sixty years the threat to the survival of humankind as a species has fundamentally changed. No longer the 'others' are the threat but 'we' due to our exponential increase in the burning of hydrocarbons and the resulting accumulation of greenhouse gases in the atmosphere.

This new anthropogenic threat cannot be countered with traditional military strategies and means any longer but requires during the 21st century a **long-term transformative change of our economy, our production and consumption and of the energy, transportation, agricultural and housing sectors towards a long-carbon economy** if a dangerous climate change and chaotic tipping points in the climate system are to be avoided.

Such a low carbon economy should be the **result of a process of a transition to sustainability what necessitates not only socio-technical changes but also in perception, values, behaviour and lifestyles of a consumer economy**.

Such a long-term transformative change to sustainability may help **avoid two types of conflicts: climate-induced and resource-scarcity driven violent conflicts**.

On the conceptual level, this chapter calls in the Anthropocene for a **further development of three key interlinked concepts of sustainable development, human security and sustainable peace** in the context of two emerging approaches of a *political geoecology*—between the natural and social sciences—and a *peace ecology* between peace, security, development and environmental studies.

Hans Günter Brauch - Úrsula Oswald Spring - John Grin - Jürgen Scheffran (Eds.):

Handbook on
Sustainability Transition and Sustainable Peace

1. Introduction: Moving towards Sustainability Transition (Chap. 1)
2. Aiming at Sustainable Peace based on Sustainable Development (Chap. 9)
3. Challenges of the 21st Century: Negative Nexus of Environ-mental Destruction, Development and Violent Conflict
4. Positive Nexus of Sustainable Development and Peace
5. Theoretical Approaches on Sustainability Transition
6. National Debates on Sustainability in North America
7. Transition towards a Sustainable Economy, Society & Urbanization
8. Sustainability Transition in the Water, Food & Health Sectors
9. Sustainability Transition in the Energy Sector
10. National, International & Transnational Governance & Strategies, Policies and Measures Towards Sustainability Transition (chap. 45)

Sustainable Peace in the Anthropocene:
Towards a Political Geoecology and a Peace Ecology Structure of Contents (Chap. 9, Hex X)

1. **Introduction**
2. **Historical Times & Turning Points**
3. **Not they but we are the Threat and Solution**
4. **Conceptual Quartet in the Anthropocene: Peace, Security, Development & Environment**
5. **Moving towards Sustainable Development (Goal)**
6. **Adopting a Human Security Approach**
7. **Developing Sustainable Peace Further**
8. **Conceptualizing an Emerging Political Geoecology**
9. **Conceptualizing an Emerging Peace Ecology**
10. **Sustainability Transition with Sustainable Peace**

1. Introduction

- In social sciences 4 **research programmes** evolved since 1945: a) *security studies*, b) ***peace studies***, c) *development studies* and d) ***environmental studies***.

- A new research paradigm of '**sustainability transition**' was launched by the *Dutch Knowledge Network on Systems Innovations and Transitions* (KSI) from "complex systems analysis, a socio-technical … and a governance perspective" (2005-2010).

- Humankind may face **2 new security threats** during this century from the impact of climate change and declining resources. John Reid warned on 28 February 2006:
  - that global climate change and dwindling natural resources are combining to increase the likelihood of violent conflict over land, water and energy. Climate change, he indicated, 'will make scarce resources, clean water, viable agricultural land even scarcer'- and this will 'make the emergence of violent conflict more rather than less likely'

- **Is there a linkage between the perceived two new security threats and the fundamental transformation of the economy and society suggested by the proponents of the 'sustainability transition' research paradigm with the normative goal of a sustainable peace?**

- **The anthropogenic change in earth history requires a reconceptualization of the four key concepts of peace, security, development and environment and of the linkages among 'sustainable development', 'human security' and 'sustainable peace' in the Anthropocene.**

1.1 Two Debates: Climate Change & Security vs. Sustainability Transition
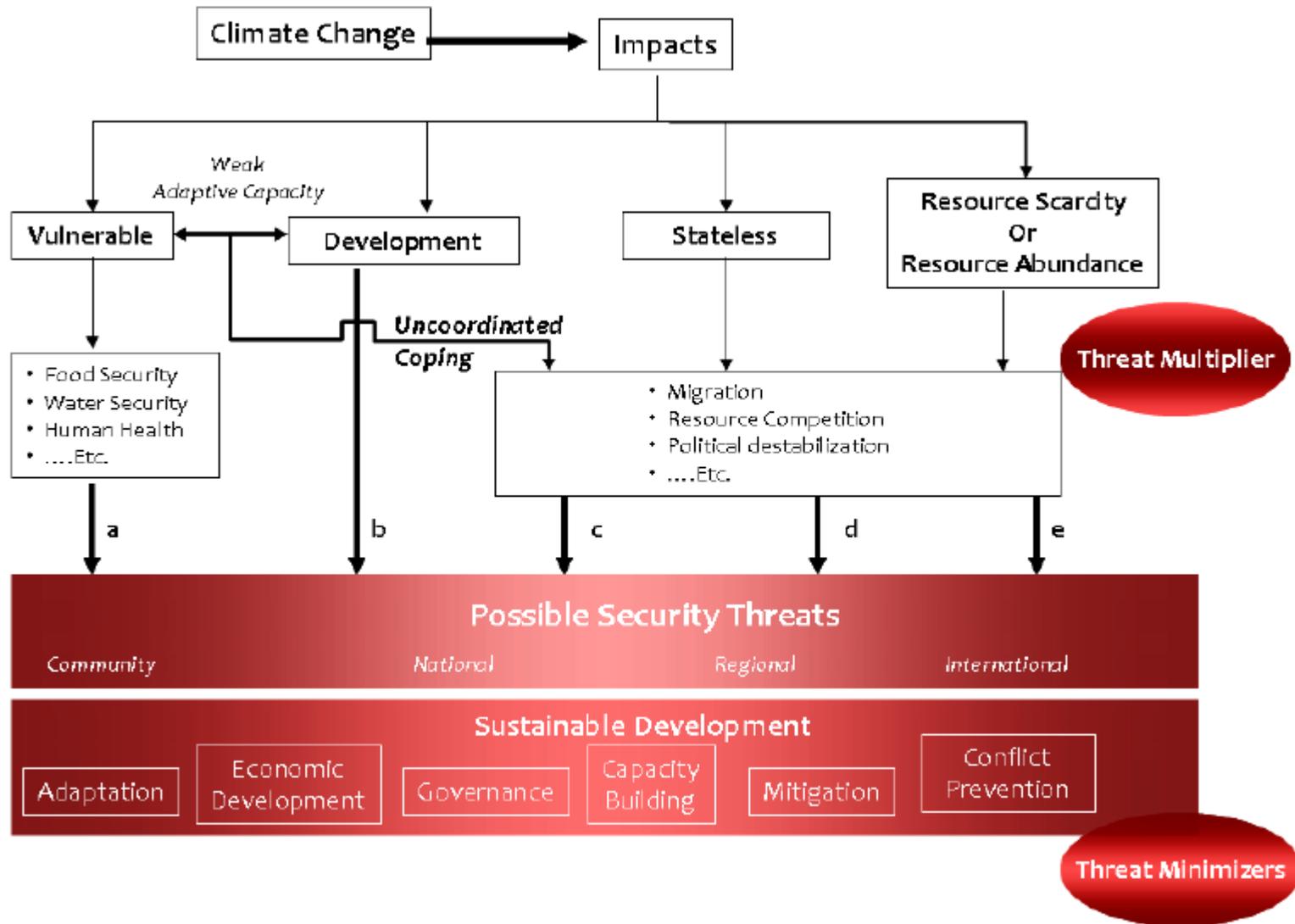
1.2. Two Policy Debates & Scientific Discourses: Climate Change & Security vs. Sustainability Transition

Hexagon Series on Human and Environmental Security and Peace VOL 8

Jürgen Scheffran · Michael Brzoska
Hans Günter Brauch · Peter Michael Link
Janpeter Schilling *Editors*

Climate Change, Human Security and Violent Conflict

Challenges for Societal Stability

Springer
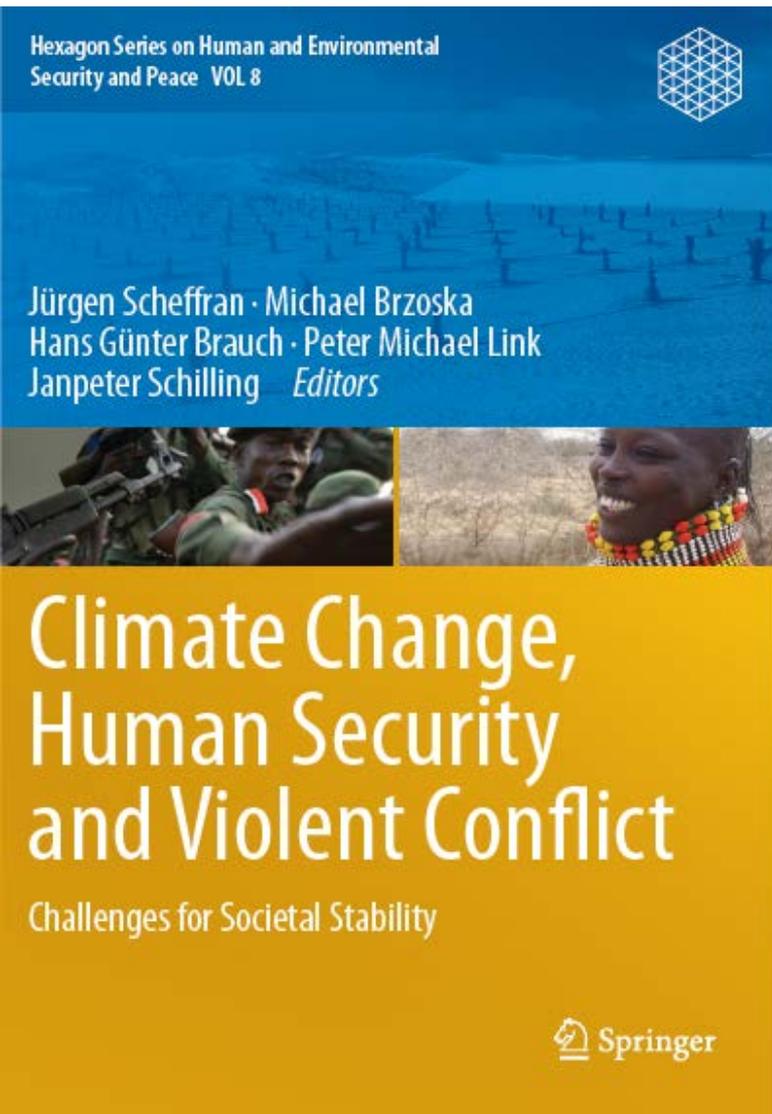
First debate is primarily policy driven and evolved in the framework of inter-national, national and human security.

Scientific discourse:

– Hamburg workshop 11/2009 (**Scheffran/Brzoska/ Brauch/Link/Schilling, 2012**) has been pursued from different policy and scientific perspectives and with different scientific methods.

– Trondheim workshop, 6/2010 (**Gleditsch, 2012**, special issue of **Journal of Peace Research**

S*econd debate* is partly policy driven, (green gowth, economy by UNEP, OECD & DGs of the European Commission.

– S*cientific discourse* on sustainability transition evolved in Europe since confer. in Amsterdam (2009); Lund (2011), Copenhagen (2012) within

– *Sustainability Transitions Research Network* (STRN) & is documented in a journal on *Environmental Innovation and Sustainability Transition* (EIST) & *Routledge Book Series in Sustainability Transitions.´*

# 2. Historical Times & Turning Points

The five historical times are:

a) Change in **the *geological time* of earth history with the transition from the Holocene to the Anthropocene (Crutzen 2002, 2016);**

b) the *time of the technical revolutions* or 'great transformations' (Polanyi 1944) of
- the *neolithic or agricultural revolution*;
- the *industrial revolution* (1750-1890) with an increase of fossil energy, communication, transportation, computers and global financial flows resulting in a globalization process and in multiple challenges to national sovereignty, risks to biodiversity and new threats of possible abrupt and chaotic climatic changes;

c) the *time of changes in national and international order* due to revolutions (American, 1776; French, 1789; Soviet, 1917; Chinese, 1949) and major wars resulting in the international orders of Vienna (1915), Versailles (1919), Yalta and San Francisco (1945), and the 'new international disorder' since the end of the Cold War (Holsti 1991; Brauch 2008);

d) the *time of repeating economic* (business cycles) and *political cycles* (period of presidents, prime ministers or chancellors); and

e) the *time of short-term major political, societal or economic events* that only in rare cases (as 'structure changing events') were instrumental for major changes in socio-technical developments or national and international order.

Crutzen (2000): We are in the Anthropocene! For the first time in earth history: humankind (we) have intervened/changed the earth system

2.1. From the Holocene (12.000 years b.p.) to the Anthropocene (1784 AD)

Paul Crutzen,
Nobel Laureate for
Chemistry (1995)
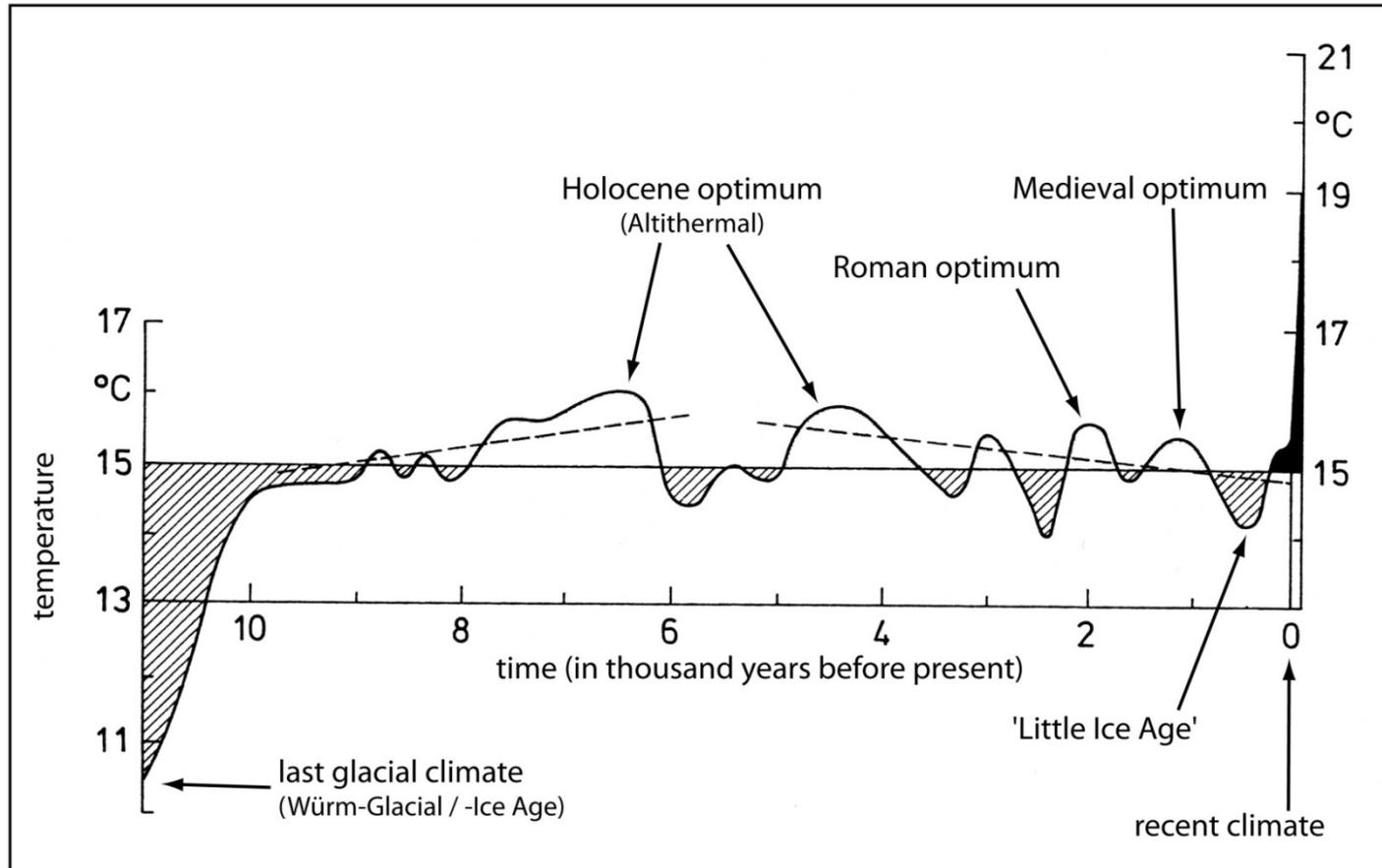
In Geology/geography: Holocene era of earth history since end of glacial period (10-12.000 years ago, Anthropocene, since industrial revolution (1784, J.Watt's invention of steam engine: anthropogenic climate changte: burning of coal.oil,gas➔GHG increase in the atmosphere

2.2 Anthropogenic Climate Change in the Anthropocene Era (1750 to present)

1958-1974 Scripps Inst. Oceanography
1974-2008 NOAA/ESRL
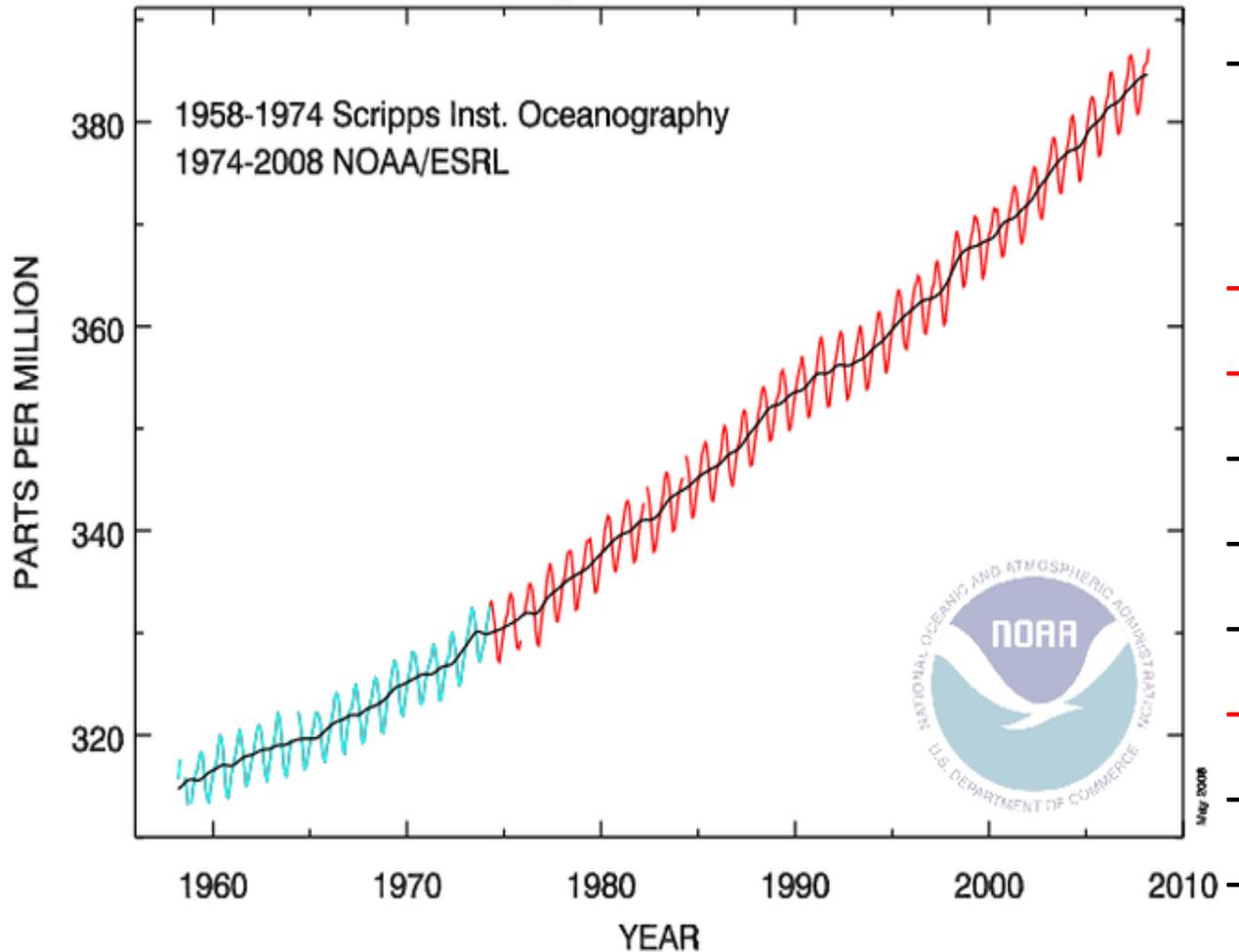
- **GHG concen-tration in the atmosphere**
- **1750: 279 ppm**
- **1958:315 ppm**
- **1987: 387 ppm**
- **2011: 393 ppm**
- **2012: 396 ppm**
- **2013: 400pp**,
- **1/3: 1750-1958:**
- **2/3: 1958-2013: 315 to 400 ppm**

3.Not ‚they' but ‚we' are the Threat and Solution

4.1 We are turning nature itself into an enemy

- Georg Boomgarden (2007), a state secretary of the German foreign ministry, argued:
- 'If we ask ourselves who the enemy is in climate change, using the concepts of classic security policy, we must conclude that we are turning nature itself into an enemy'. … **'And with this enemy, neither deception nor deterrence is going to be of any use**. The later we adapt, the greater the cost will be'. … Avoiding security-relevant cataclysms of global extent required the course to be set today. The time window for possibly irreversible processes to occur as a result of global temperatures rising by more than two degrees compared to pre-industrial days was about to close.

4. Conceptual Quartet in the Anthropocene: Peace, Security, Development & Environment

- **Pillars & linkage concepts within the quartet**

| IR research programs	Conceptual Quartet	Conceptual Linkages
▪**Peace Research** ▪**Security Studies** ▪**Development Studies** ▪**Environment Studies** **4 conceptual pillars** ▪ **I**: *Security dilemma* ▪ **II**:*Survival dilemma* ▪ **III**: *Sust. developm.* ▪ **IV**: *Sustain. peace*	**Peace** **Security** ·*I: Security dilemma* · · · V · · **Developm.** ⟷ **Environm.** *III: Sustainable development*	·**Policy use of concepts & Theoretical debates on six dyadic linkages** ·L1: **Peace & security** ·**L 2: Peace & development** ·**L 3: Peace & environment** ·**L 4: Devel. & security** ·**L 5: Devel. & environment** ·**L 6: Security & environm.** **[six chapters reviewing & assessing the debates]**
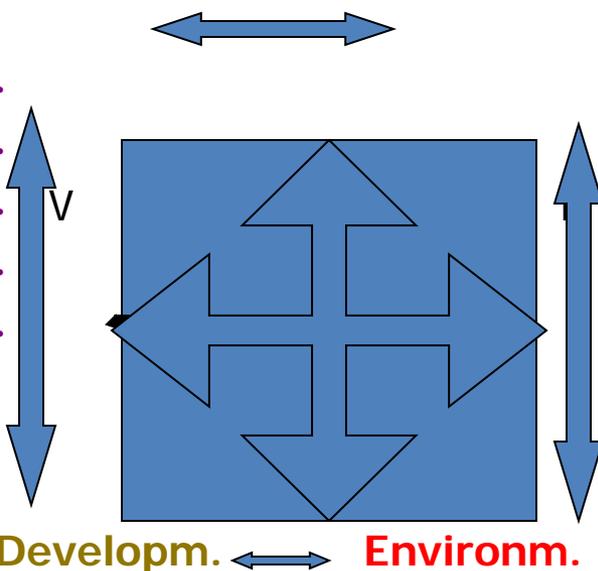
4.1. The Changing Peace Concept

- 'Peace, 'pax'. *eirene*, *shalom*, *salām*, *ahimsa*.

- During Roman period, 'pax' was tied to law and contracts, *pax Romana* relied on subjugation under the emperor in exchange for protection against external intruders.

- Besides the **'peace within the state'** that was achieved through its monopoly of the means of force, the 'peace between and among states' was a major concern of international law since the 16th century. War was a legitimate means for the realization of interests among states (*ius ad bellum*), while calling for constraints during war (*ius in bello*).

- In his treatise for an *eternal peace* (1795) Kant proposed a ban on war itself and developed a legal framework for a permanent peace based on six preliminary and three definite articles that called for a democratic system of rule, a league of nations, and the respect for human rights.

- After World War I, Kantian tradition influenced the creation of the League of Nations, after World War II, the UN gained 'teeth' with Security Council. During the Cold War a bipolar power system prevailed relying on military alliances instead of the 'collective security' of the UN Charter. With the end of the Cold War, 'new wars' emerged as resource, ethnic, and religious conflicts, primarily within states but also as pre-emptive wars. During the 1990's proposals for a new international order were gradually replaced by power-driven concepts of preventive wars and the 'war on terror'.

- Detached from these political contexts, **peace has been defined as a 'basic value' and a as a 'goal of political action', as a situation of non-war, or as an utopia of a just and sustainable world**. Galtung distinguished between a condition of 'negative' (absence of physical or personal violence) and 'positive peace' (absence of structural violence, repression, and injustice), taking the form of "economic exploitation and/or political repression in intra-country and inter-country class relations" into account. He distinguished among negative, or *positive peace* (harmony).

- In the UN Charter of 1945, the 'concept of peace' is noted as its key mission in Art. 1,1: "to maintain international peace and security", and "to take effective collective measures for the prevention and the removal of the threats to the peace, and for the suppression of acts of aggression or other breaches of the peace", as well as peaceful conflict settlements.

- UN Charter of June 1945, a narrow or a 'negative' concept of peace has been in the centre with a few direct references to 'positive' aspects to be achieved by 'friendly relations among nations', and by 'international cooperation'.

- The 'positive peace' concept refers to peaceful social and cultural beliefs and norms, the presence of economic, social and political justice and a democratic use of power including nonviolent mechanisms of conflict resolution.

- **'Sustainable peace' or 'peace with nature' was added later to the debate in the UN.**

5. Moving towards Sustainable Development (Goal)

- Since Stockholm conference (1972) many developing countries called for 'additional' funding by the North to deal with global environmental issues caused by industrialized nations. Since the late 1980's the controversies have increased between proponents of sustainable development and neoclassical modernization and critical theories of development.

- The concept of 'sustainable development' was politically introduced by the Brundtland Report (1987: 8) that defined sustainability "to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs". 'Sustainable development' combines two key concepts: of **needs, in particular the essential needs of the world's poor, …; and the idea of limitation imposed by the state of technology and social organization on the environment's ability to meet present and future nee**ds (Brundtland Report 1987: 43).

- Since Brundtland Report in 1987, sustainable development has become the key concept guiding policy & scientific debates. **The UNCED conference in June 1992** resulted in the signing of the *UN Framework Convention on Climate Change* (UNFCCC) and of the *UN Convention on Biodiversity* (CBD) and the adoption of the Agenda 21 and a mandate for negotiating a *UN Convention to Combat Desertification* (UNCCD).

- The *United Nations' Commission on Sustainable Development* (UNCSD) was to ensure effective follow-up of UNCED by providing policy guidance for the *Johannesburg Plan of Implementation* (JPOI) at multiple levels.

- In 2000 a summit of the UNGA in New York adopted the **Millennium Declaration with eight *Millennium Development Goals* (MDG) to be achieved by 2015 with goal 7 focused on ensuring 'environmental sustainab**ility'.

- The UN 2005 World Summit Outcome Document refers to sust. Dev. as the "interdependent and mutually reinforcing pillars" of sustainable development as economic development, social development, and environmental protection.

- *UN Conference on Sustainable Development* (UNCSSD or Rio+20) in June 2012 adopted a 'legally non-binding outcome document': *The Future We Want*, calling for a green economy in the context of *sustainable development* (SD)

- It proposed to develop a set of *Sustainable Development Goal*s (SDGs), guidelines on green economy policies, and a 10-year framework on sustainable consumption and production.

- Democratic governance is not relevant for distinguishing the different climate performance of the G8 and G20 countries. An implementation gap exists among democracies between EU countries (leaders) and large OECD countries in North America and in the Asia-Pacific region (laggards) with legally binding reduction obligations. Among the G20 countries different strategies towards a long-term transformative change to sustainability can also be observed.

5.1. Frank Geels: Sustainability Transitions
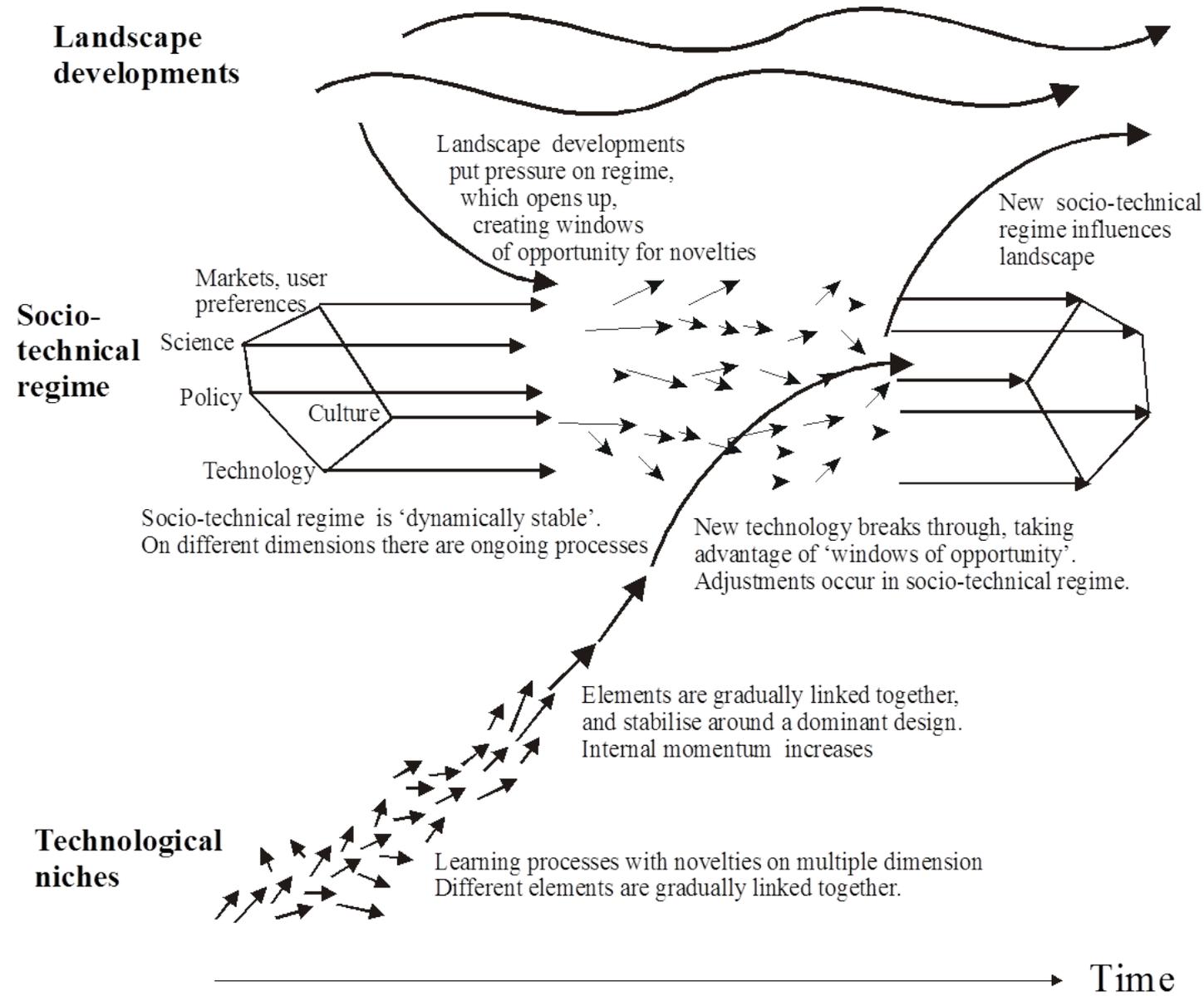
5.1. WBGU (2011): Sustainability Transitions
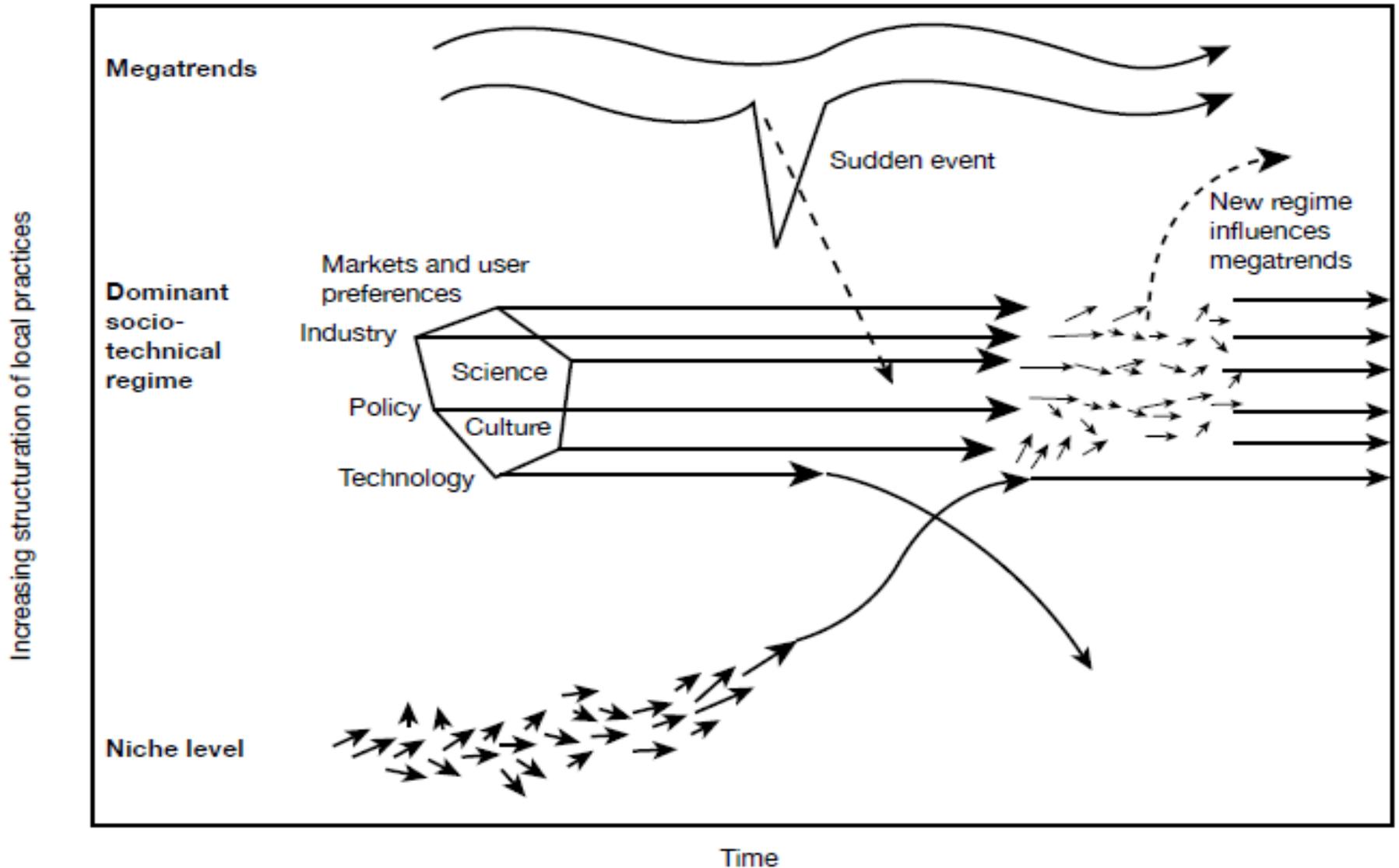
6. Adopting a Human Security Approach

- After Cold War shift occurred from 'state-centred' to 'human-centred' security.
- UNDP (1994) launched human security concept and Commission in Human Security developed it further suggesting: protection & empowerment of the people.
- For 2 decades intensive scientific and policy debate in UN context (UNSG reports),
- In assessment on HS impacts of effects of climate change IPCC (2014) concluded:
  - *Climate change will have significant impacts on forms of migration that compromise human security (high agreement, medium evidence)*. Some migration flows are sensitive to changes in resource availability and ecosystem services. Major extreme weather events have in the past led to significant population displacement, and changes in the incidence of extreme events will amplify the challenges and risks of such displacement. Many vulnerable groups do not have the resources to be able to migrate to avoid the impacts of floods, storms and droughts. Models, scenarios and observations suggest that coastal inundation and loss of permafrost can lead to migration and resettlement …
  - *Mobility is a widely used strategy to maintain livelihoods in response to social and environmental changes (high agreement, medium evidence)*. Migration and mobility are adaptation strategies in all regions of the world that experience climate variability. …
  - There is insufficient evidence to judge the effectiveness of resettlement as an adaptation to climate change. *Some factors that increase the risk of violent conflict within states are sensitive to climate change*. The evidence on the effect of climate change on violence is contested …
  - *People living in places affected by violent conflict are particularly vulnerable to climate change (high agreement, medium evidence)*. Evidence shows that large-scale violent conflict harms infrastructure, institutions, natural capital, social capital and livelihood opportunities. Since these assets facilitate adaptation to climate change, there are strong grounds to infer that conflict strongly influences vulnerability to climate change impacts …
  - *Climate change will lead to new challenges to states and will increasingly shape both conditions of security and national security policies (medium agreement, medium evidence)*. Physical aspects of climate change, such as sea level rise, extreme events and hydrologic disruptions, pose major challenges to vital transport, water, and energy infrastructure … Some states are experiencing major challenges to their territorial integrity, including, small island states and other states highly vulnerable to sea level rise …
- This IPCC assessment of the social science literature requires that the environmental and the climate change dimension of human security and its fourth conceptual pillar of **'Freedom from hazard Impact'** should be taken up in the debates in the UNGA and in the discussions of the UNSC as well as in future reports of the UNSG (2009, 2010, 2012) on both human security and climate change that have so far treated both as two separate policy issues.
- **In the social sciences and especially in peace, security, development and environmental studies these observed linkages need more emphasis in conceptual, theoretical, and empirical research.**

7. Developing Sustainable Peace Further

- **Sustainable peace' is a value-oriented and idealist concept** that has been used by development NGOS and IGOs and in the social sciences in development and peace studies, including peace psychologists. In *Sustainable Peace*, Connie Peck (1998) introduced this concept into the post-Cold War debate on preventive diplomacy and on conflict prevention both as a 'vision' and as a policy programme for conflict prevention arguing that
  - the twin concepts of sustainable development and sustainable peace could provide a full, and more focused and acceptable agenda for conflict prevention. ... The search for sustainable peace will therefore need to be based on the establishment of the rule of law (a rights-based approach) and the institutionalization of problem solving (an interest-based approach) to replace violent conflict (a power-based approach).

- Peck linked 'sustainable peace', 'sustainable development' to 'human security' stating that
  - sustainable peace is dependent upon addressing human security needs through the development of a fair process that can foster and maintain that security. Assistance in the creation of sustainable peace must therefore be based first on a thorough understanding of human security needs at the local level, and second on knowledge about how these might be best addressed through appropriate institutional and structural mechanisms (Peck 1998: 225).

- Deutsch and Coleman argued that "a sustainable world peace will require the building of such a society imbued with such mechanisms and relationships" and they offer ... the "psychological requirements of such a society".

- Peck, Deutsch and Coleman did not take environmental challenges and their possible consequences on new types of conflict during the Anthropocene into account.

8. Conceptualizing an Emerging Political Geoecology

- **Brauch, Dalby and Oswald Spring et al. (2011):** **for rethinking the relationship between humankind and nature beyond geopolitics (Hobbesian tradition).**

- **Lovelock's** 'Gaia hypothesis', **Edward O. Wilson's** (1998, 1998a) 'consilience', **Huggett's** (1995) '**geoecology',** and '**earth systems analysis**' (Schellnhuber/Wenzel 1998; Steffen et al.) **have left politics out.**

- **Geopolitics** ignored env. issues, in physical geography '**geoecology**' ignored 'politics', as fields, processes, institutions, legal frameworks for the implem. of sustainable developm.

- '**Political geoecology**' is to **bring politics, peace-building and widened security issues in** and outline a policy vision for the 21st century that aims at a **sustainable peace**.

- **Political geoecology** links **physical and human geography** with **other social sciences**.

- This requires a **political dimension** moving from **anticipatory knowledge to proactive action** from a **vision of a political geoecology** for cooperative envi. policy in the Anthrop.

- This perspective aims at a long-term global cooperative political strategy in a multilateral context. This requires a rethinking of key goals of the UN Charter "to maintain internat. peace & security" including these new challenges humankind faces in the 21st century and to develop a **new strategy for a sustainable peace based on a gradual decarbonization of the global economy to cope with the impacts global environmental change is posing**.

9. Conceptualizing an Emerging Peace Ecology: Linking Environmental and Peace Studies

- **Kenneth Boulding**: Pioneer in linking economic, environmental and peace studies
- **Environmental Security:** Discourse since 1989
- **Ken Conca** (2002): **Environmental Peacemaking**
- **Peace Ecology** (Kyrou (2007) introduced 'peace ecology' as an "integrative, multi-contextual, and case sensitive approach in identifying resources for conflict and violence transformation" with the goal "**to include issues of conflict analysis and peacebuilding" into environmental studies".**
- **Randall Amster: Peace Ecology** (2014)

9.1 Expanding Peace Ecology

- Linking **'ecology'** with the normative ethical, political & scientific goal of peace, scientific analysis must be broadened & **action-oriented political thinking and strategies, policies and measures to achieve peace with its different features of a 'negative', 'positive', 'cultural', an 'engendered' and a 'sustainable peace'**.

- **Peace ecology calls for "peace with nature"** that is being challenged by the manifold anthropogenic interventions into the earth system during the Anthropocene (**Crutzen 2000**): To achieve **'peace with nature'** is a domestic & international task where human behaviour has to be brought in line with the holeness of nature.

- How human beings respond to these new dangers to the survival of the species but also of plants & animals through a declining biodiversity depends but on worldview of scientists but also on mindset of elites and on whether carbon lobbies succeed.

- *Business-as-usual* prevails when political, economic & military elites are unwilling or unable to act to address root causes of global environmental and climate change.

- Many religious leaders, scientists, policymakers have called for an **alternative vision** aiming for a new **scientific revolution**, for a fundamentally **different worldview** shifting to an **alternative paradigm of sustainable development** and **sustainable peace** where the ethical goal of **'peace with nature'** can be achieved.

9.2 Conceptual Pillars of Peace Ecology

- Peace ecology in the Anthropocene may be conceptualized with **5 conceptual pillars of peace, security, equity, sustainability, gender**.

- To conceptualize the linkages between peace and security we refer to '**negative peace**' and for the relationship between peace and equity to '**positive peace**' concept, for interactions between peace, gender and environment '**cultural peace**' and for the relations between peace, equity and gender we propose the concept of an '**engendered peace**'.

- *Sustainable peace* refers to links among peace, security & environment, where humankind and the environment as 2 key parts of global Earth face the consequences of destruction, extraction and pollution.

- **Sustainable peace** includes also processes of recovering from environmental destruction, reducing the human footprint in nature through a **less carbon-intensive** - and in the **long-term possibly carbon-free and increasingly dematerialized production processes** that future generations may still be able to decide on their own resources and development strategies.

9.3. Five Pillars of Peace Ecology
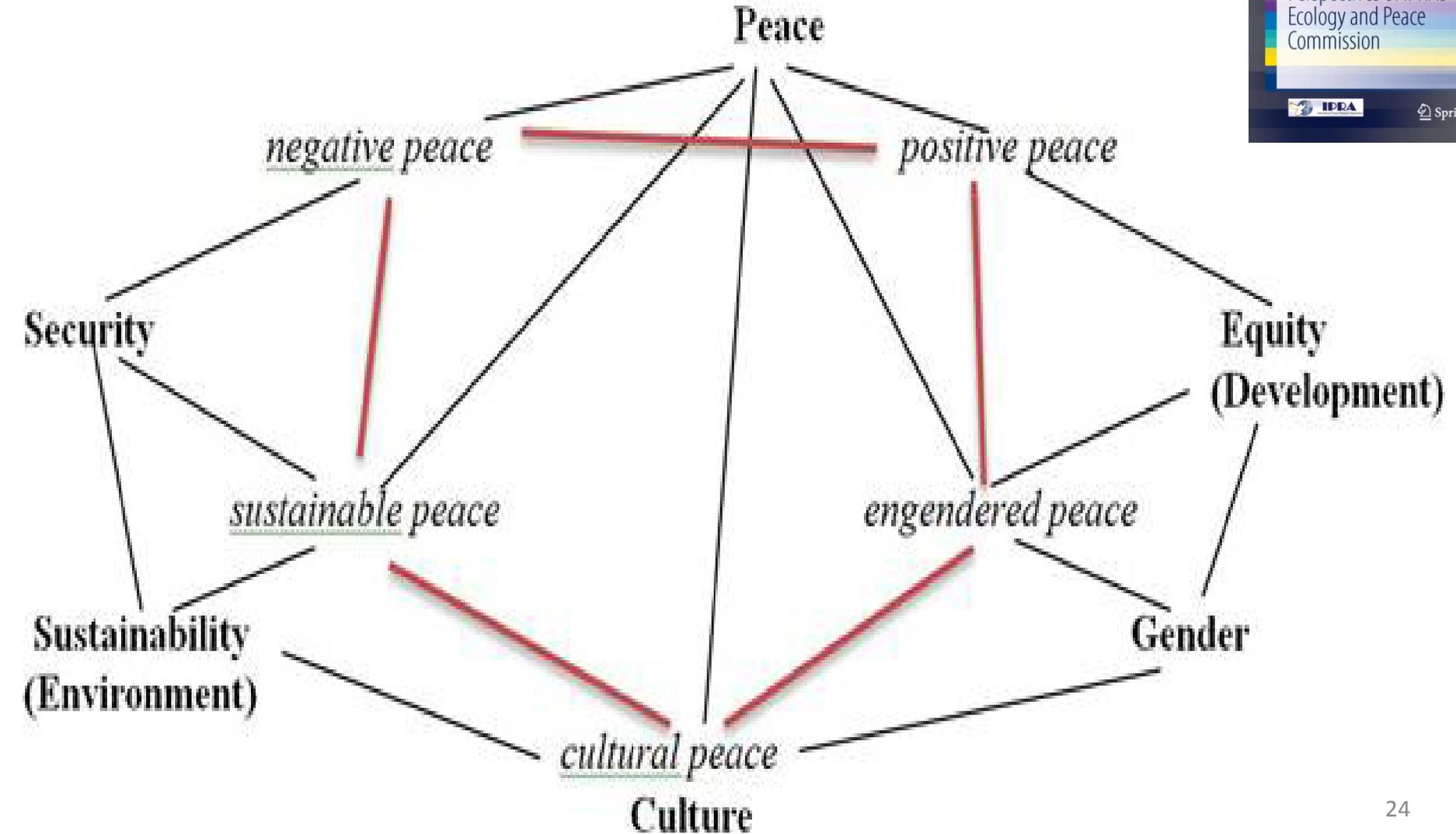
10. Sustainability Transition with Sustainable Peace

- Two technical revolutions in earth history have resulted in technical & strategic revolutions & more violent warfare. During the two world wars the total mobilization and militarization of technological innovations resulted in more than 20 million in WW I or more than 50 million deaths in WW II.

- May a long term transformative change towards sustainability result in a 'higher form of killing' or will it foster more cooperative forms of cooperation and conflict resolution and peacebuilding?

- Powerful interest groups have countered the debates on global climate change and for a decarbonization of the economy. As a 'decoupling of growth from energy consumption' is possible with an energy efficiency improvement and by a replacement of fossil with renewable energy sources, the dependence on energy imports will gradually decline and resource wars may be less likely. This is a goal of EU's roadmap for a low carbon economy by 2050. The Commission & Council argued that a sustainability transition in the energy & transport sector will reduce both energy costs and dependence on imports of fossil energy from unstable regions. This would decouple economic growth possibly also from contested regions.

- In a *pragmatic scenario* socio-technical innovations & a new scientific revolution towards sustainability may change the worldview of scientists and partly the mind-set of policymakers.

- Two peaceful outcomes of a transitions process towards a low carbon economy can be assumed:

- Climate wars would become highly unlikely if the causes of this threat may be countered by a major global reduction of the consumption of fossil energy and thus a stabilization of GHGs in the atmosphere. Avoiding this new type of violent conflicts in highly vulnerable climate hotspots would represent an global diplomatic strategy that fosters a sustainable peace.

10.1. Vision: 10. Sustainability Transition with Sustainable Peace

- For countries that adopt and implement a long-term transformative change towards sustainability in energy, production, transportation, housing and agricultural sectors their dependence on scarce and rising energy prices from contested regions would decline thus reducing the pressure to intervene militarily to guarantee access and transportation of these energy sources to avoid their economy from collapsing.

- Reduction of the likelihood of old 'resource conflicts & avoidance of new 'climate conflicts due to the economic transformation towards sustainability could possibly foster new political coalitions of those countries who could invest in concrete projects that could result in this dual decoupling of many highly vulnerable countries situated in climate change hotspots.

- Thus, a sustainability transition towards a low carbon economy by reducing the probability of two types of conflicts may foster policy strategies aiming at a more sustainable peace with more human security where also the freedom from the impacts of climate-induced hazards will be more likely. This linkage between the three new policy goals of a 'sustainable development' with 'human security' and 'sustainable peace' would draw basic lessons from the security implications of the Anthropocene, where we have become the threat to the survival of humankind and only humankind itself can offer a solution to the consequences of human intervention into the earth system.

- These conceptual considerations have suggested tocontextualize the 'sustainability transition paradigm' and policy strategies for a 'low carbon economy' as a sustainable peace goal within a human security strategy, as Sir David King (UK) and Rajendra Pachauri (India) have suggested. As only 'we' can offer the solutions to the impact of human interventions into the earth system it is crucial to mainstream sustainable peace considerations into conceptual thinking and policy action aiming at a long-term transformative change towards a low carbon economy with high energy efficiency during this century.

10.2. Need for Long-term transformative changes towards a long-carbon economy

G-7 Meeting in Elmau, 7-8 June 2015: Leaders' Declaration

The agreement should enhance transpa-rency and accountability including **through binding rules at its core** to track progress towards achieving targets, which should promote increased ambition over time. **This should enable all countries to follow** a low-carbon and resilient development pathway **in**

Mindful of this goal and considering the latest IPCC results, we emphasize that **deep cuts in** GHG emissions are required with a **decarbonisation of the global economy over the course of this century**. Accordingly, as a common vision for a global goal of GHG emissions reductions we support sharing with all parties to the UNFCCC the upper end of the latest IPCC recommendation **of** **40 to 70% reductions by 2050 compared to 2010** recognizing that this challenge can only be met by a global response. We commit to doing our part to achieve **a** **low-carbon global economy in the long-term** **including** **developing and deploying innovative technologies striving for a transformation of the energy sectors by 2050** **and invite all countries to join us in this endeavor.** To this end we also commit to develop **long-term national low-carbon strategies.**

10.3 Goals of G8 of Heiligendamm (2007) Climate Paradox: Promises with Little Action

We are committed to moving forward in that forum and call on all parties to actively and constructively participate in the UN Climate Change … in December 2007 with a view to **achieving a comprehensive post 2012-agreement (post Kyoto-agreement) that should include all major emitters.** To address the urgent challenge of climate change, it is vital that the **major emitting countries agree on a detailed contribution for a new global framework by the end of 2008 which would contribute to a global agreement under the UNFCCC by 2009**.

Climate Change, Energy Efficiency and Energy Security: Heiligendamm (2007)

Combating climate change is one of the major challenges for mankind and it has the potential to seriously damage our natural environment and the global economy. We noted with concern the recent IPCC report and its findings. We are convinced that urgent and concerted action is needed and **accept our responsibility to show leadership in tackling climate change**. In setting a global goal for emissions reductions in the process we have agreed in Heiligendamm involving all major emitters, we will **consider seriously the decisions made by the European Union, Canada and Japan which include at least a halving of global emissions by 2050**.

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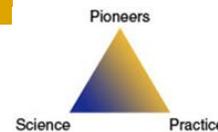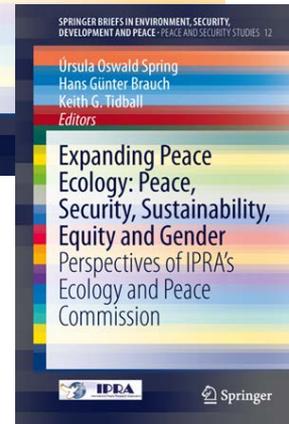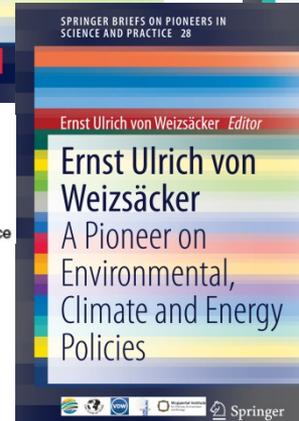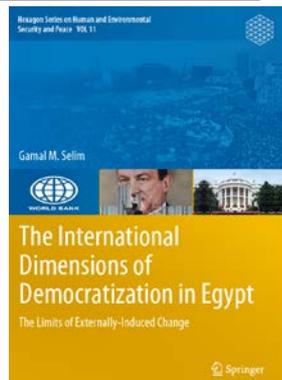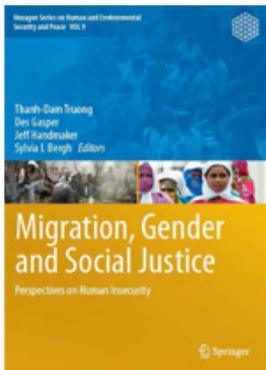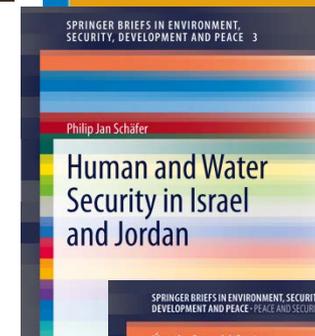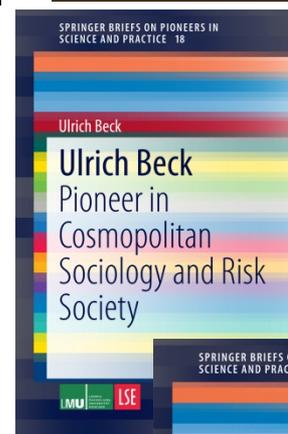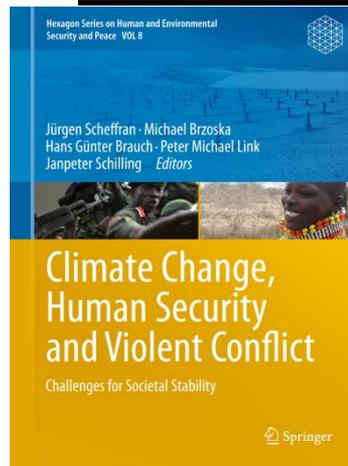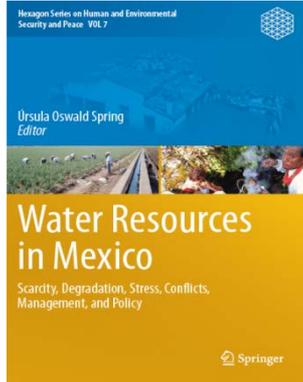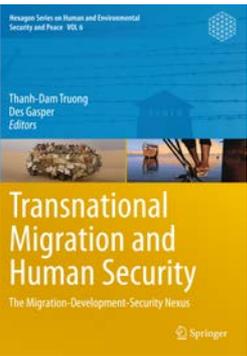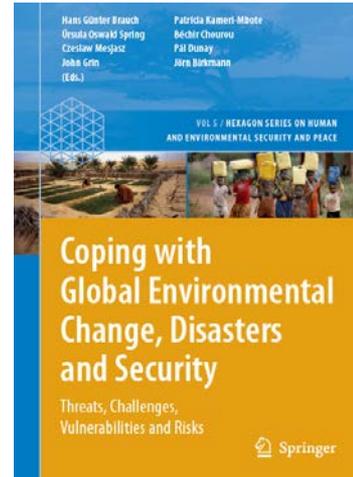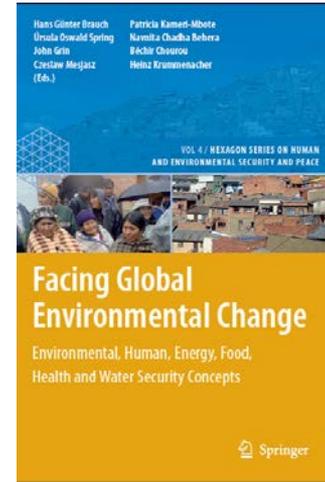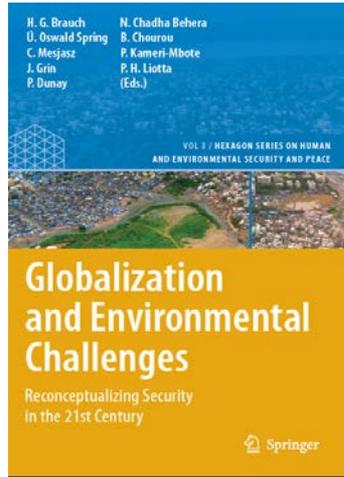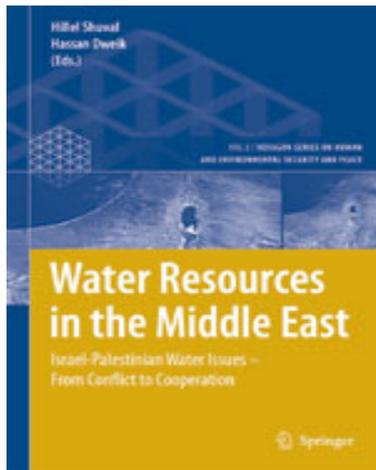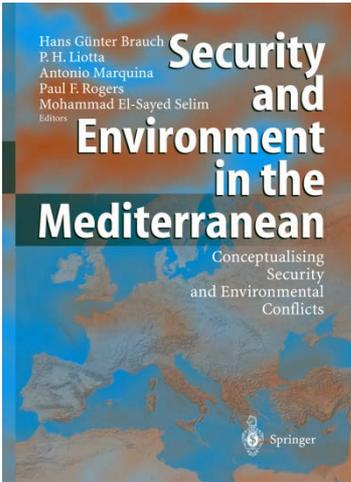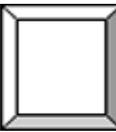
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