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Complex Crisis Landscapes and Climate Risk Governance: Challenges for European Stability and Transformation

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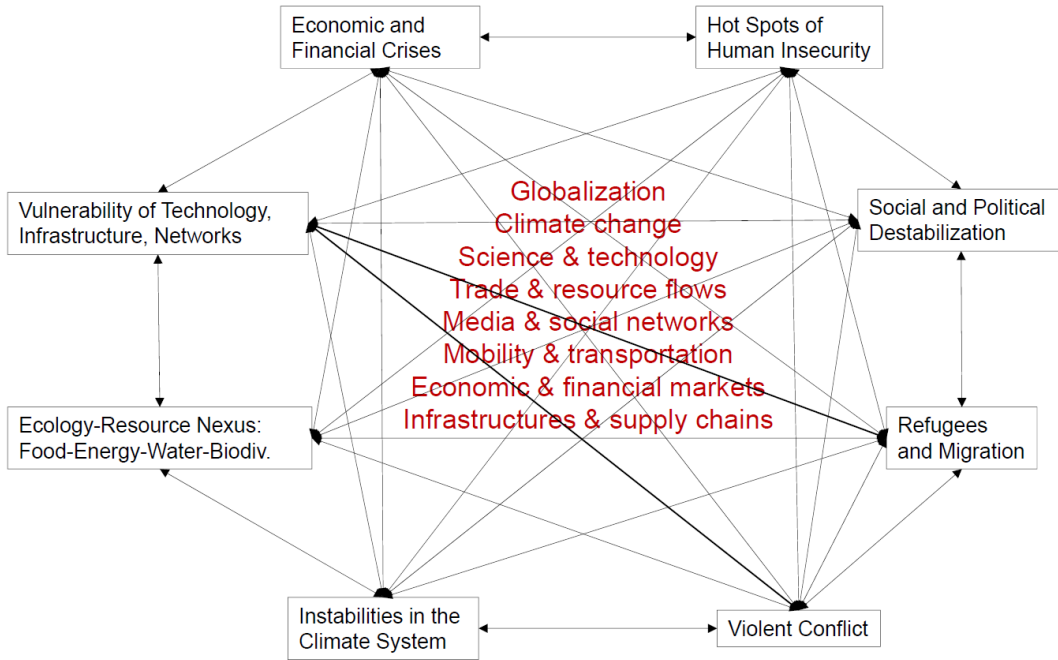
The World's Complex Crisis Landscapes

The 1989 turning point in world history resulted from a domino effect that within weeks led to the fall of the Berlin Wall, the breakup of the Eastern Block and a breakdown of the East-West conflict. After the Cold War, the relationship between the former superpowers changed from hostility to cooperation but was challenged from the beginning by the Western dominance and the rivalry with Russia, China and other powers. A new world of disorder and transformation emerged in which multiple crises interacted in fractal and fragile landscapes at national, subnational and transnational levels that continue to be unstable and full of surprises (Scheffran 2008). Conflicts in the Balkans, in Africa, the Middle East and other parts of the world triggered foreign military interventions. Nuclear and missile proliferation continued, and new arms races emerged including outer space and new technologies that accelerated a 'revolution in military affairs.' 'New wars' and terrorism demonstrated that individuals and small groups can have huge impacts and contribute to the cycles of hatred and violence.

The "complexity turn" in international relations (Urry 2005) is characterized by multi-level crises interrelated through global connectors such as financial markets, infrastructures and supply chains; media and social networks; communication and transportation systems; resource flows and climate change (Figure 1).

While complex systems are often robust against disturbances, on the edge of instability small variations and uncertainties can make big differences between systemic breakdown or creation of new ones. When everything is interconnected, changes in one part of the world could have significant impacts elsewhere, triggering cascading crises beyond tipping points (Kominek and Scheffran 2012; Scheffran 2015), including natural disasters, stock market crashes, revolutions, mass exodus or violent conflicts.

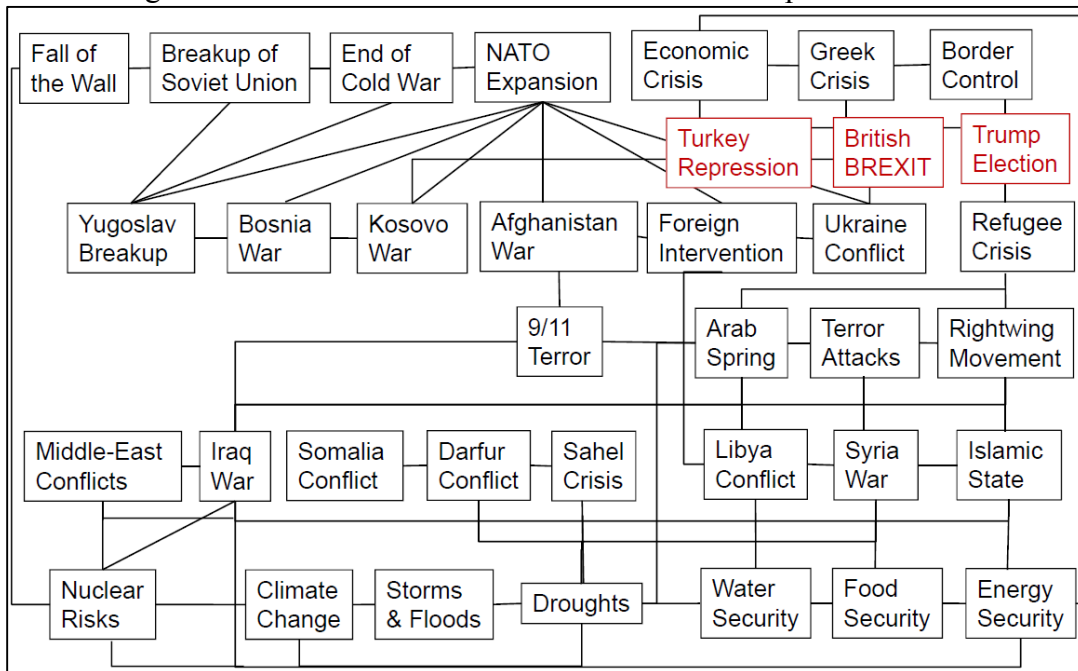
Figure 1: Global connectors in complex crises landscapes



Source: Scheffran (modified from author’s presentation, ISA Atlanta, March 2016)

In the world’s fractal and fragile landscapes, crisis events include: September 11; the global and Greek economic crisis; the Arab Spring; wars in Iraq, Afghanistan, Libya and Syria; the civil war in Ukraine; the European refugee crisis and terror attacks in many countries; nationalist movements; the British Brexit and consequences of the US election (Figure 2).

Figure 2: Interconnected conflicts and crisis landscapes since 1989



Source: Scheffran (modified from author’s presentation, ISA Atlanta, March 2016)

Climate Change as a Risk Multiplier

Environmental change is connected with other problem areas through multiple linkages from local to global levels. Climate change is becoming a risk multiplier which imposes stress on natural resources such as water, food and energy, and threatens the functioning of critical infrastructures and supply networks for health and wealth, provoking production losses, price increases and financial crises. In the most affected regional hot spots, global climate change and local environmental degradation can contribute to poverty and hunger, undermine human security, social living conditions and political stability; and aggravate migration movements and conflict situations (Scheffran *et al.* 2012). Particularly critical is the situation in fragile and failing states with social fragmentation, inadequate governance and management capacities. The impact of environmental change could weaken the ability to solve problems and dissolve state structures. Whether climate stress triggers cycles of risk and violence or rather favors a transition towards cooperation, resilience and sustainability depends on human and societal responses. The challenges of neighboring crisis landscapes for European stability, transformation and governance are discussed in the following, with focus on the Mediterranean and Arctic regions.

The Mediterranean Region

The Mediterranean region, including Southern Europe as well the Middle East and North Africa (MENA), is forming complex crisis landscapes. Various socio-political, economic and ecological processes are interconnected, including differences between the Islamic, Christian and Jewish religions; the Israeli-Arab-Palestinian conflict; political instability in the Arab Spring and armed conflicts in Libya, Syria and Yemen; aspirations for regional hegemony by Iran, Saudi-Arabia and Turkey; terror and violent acts by the “Islamic State” or other non-state actors; mass migration and refugees movements; interventions by external powers such as Russia, the USA and NATO; and divisions between Global North and South.

In addition, global warming poses challenges for the Mediterranean. Variations in temperature, precipitation, weather extremes and sea-level affect soil erosion, desertification, river flows, coastal zones, rural and urban areas. Particularly vulnerable are agriculture, forestry, fishery and the water-food-energy nexus. Heat waves and forest fires compromise vegetation, ecosystem change affect soil quality, carbon cycle and local climate. The shrinking resource base undermines living standards and development opportunities, and conflicts with rising demands by growing population, economic consumption and water-intensive activities such as irrigation.

Combined with other factors, such as unemployment, poverty, economic recession and unstable political regimes, climate change can contribute to instability of the Mediterranean region through mass migration, riots and violent clashes. Whether these developments occur depends on the differences in vulnerability, and adaptive and problem-solving capacities across the Mediterranean (Scheffran and Brauch 2014). In Southern Europe, declining water and land availability could endanger human livelihood and tourism. Relatively high economic and social capabilities can be supported by the EU to mitigate impacts and strengthen long-term adaptation to minimize outbreaks of violence and conflict. In MENA, climate change interacts with the region’s other challenges such as population growth, dependence on agriculture and weak governance. Compared to Europe, MENA countries are more vulnerable, less able to adapt and mitigate conflict (Schilling *et al.* 2012).

For instance, Egypt and especially the capital Cairo are highly vulnerable to various impacts of climate change, like water scarcity, land degradation and loss in agricultural productivity. Demographic pressures of a doubling population may intensify land and water competition. Since Egypt depends on the Nile for 95 percent of its water, increasing water demand by upstream countries and sea-level rise in the Nile delta bears a conflict potential (Link *et al.* 2012), but also the need for agreements to regulate water distribution in the Nile basin (Link *et al.* 2013).

Widely discussed are the social and political upheavals in the Arab Spring since 2011. The series of protests and uprisings, from Tunisia to Libya, Egypt, Syria and other MENA countries were accelerated and multiplied by electronic media and social networks (Kominck and Scheffran 2012). The role of rising food prices and climate change is subject to scientific debates. Some studies argued that the political crisis was aggravated by weather events, in particular the 2010/2011 drought in China, which affected the international market price of wheat and food availability (Werrell and Femia 2013), together with other drivers of food prices, including oil price, bioenergy use and stock market speculations. The consequences of low income, resource imports and high food spending contributed to political unrest. This illustrates how in an interconnected world a complex chain of events and overlapping stressors can affect international stability.

In the years before the rebellion, Syria suffered devastating droughts (Kelley *et al.* 2015) hitting the main growing areas, driving people from rural to urban areas and reducing the number of people in agriculture by half (Werz and Hoffman 2013). This added to other conflict drivers rooted in economic, social and demographic conditions, political failures of and dissatisfaction with Assad as well as the US invasion in Iraq 2003, the Arab Spring of 2011 and the emergence of the Islamic State (for a critical view see Fröhlich 2016). While the Syrian civil war became the battleground of regional and external powers and destabilized the region, millions were driven as refugees into neighboring countries and abroad. This merged with other migration movements through MENA, from Afghanistan and Iraq to the Sahel, related to violent conflict, population growth, rural-urban mobility, resource depletion and climate change.

When these movements reached Europe across the Mediterranean Sea and the Balkan route in 2015, the European Union was unable to jointly handle this situation. In the emerging “refugee crisis,” nationalist movements provoked tensions. Media coverage of boat people and refugees reinforced threat perceptions and the securitization of migration, e.g. through FRONTEX which expanded the ‘defence’ of and against refugees. These developments framed the debate on environmental and climate migration in wake of the 2015 Paris Agreement on climate change.

The Mediterranean region suffers from a lack of cooperation, where a number of dialogues coexist with little interaction, at the Euromed, NATO and OSCE levels (Scheffran and Brauch 2014). The new challenges need to be addressed in a multilateral and cooperative way, including policies and institutions on climate impacts, adaptation and mitigation, in particular in energy security based on renewables. A Mediterranean and Human Security Initiative (MEH-SEC) would allow a balanced economic co-development across the Mediterranean.

The Arctic Region

The Arctic is in a process of substantial transformation, creating new challenges for the EU. It is one of the world’s regions most affected by global warming, including sea ice melting and

permafrost, changing ocean currents, increasing albedo and release of greenhouse gases, possibly triggering tipping points in the global climate system. On a local scale, there are significant impacts on soils and vegetation; ecosystems and biodiversity; human livelihood and access to natural resources. Climate change combines with a shifting political climate between Russia and the West as well as instabilities in the EU and the transformation of transatlantic relationships with the Trump administration. The warming opens new conditions for shipping, food and energy production in a yet unexplored and unexploited polar region. Security risks and conflict potentials are raised by the exploitation of fossil reserves, competing claims for transportation, pipelines and national borders, protests by indigenous people and civil society, and the struggle on global climate policy. The availability of natural resources and expected gains in the Arctic could induce legal disputes and resource competition.

The complex linkages between global and local issues in the Arctic region challenge the balance of power between USA, Canada, Europe, Russia, China and Japan in the Northern hemisphere. Although Arctic military forces are yet quite small, political escalations can contribute to new arms races between nuclear weapons, missiles and submarines combined with space, cyber and hybrid warfare. On the other hand, opportunities for increased cooperation and new partnerships can arise between private and state actors. Transboundary cooperative alliances for a more sustainable and secure development require regulating policies, institutions and management approaches to ensure a secure and sustainable transition into a new era of Arctic development.

Governing Complexity and Risk

In the complex nexus of interconnected crises, the world may continue on a slippery slope of escalation, running into natural boundaries and their forces. The growing complexity provokes countering trends of over-simplifications, religious, populist and nationalist fundamentalisms, rhetoric against science and intellectuals, and resistance against globalization. Whether simplicity will trump complexity is doubtful, as overly simple responses may lead to further destabilization. Stability may be rather achieved by adapting the complexity of policies to the complexity of the systemic processes which they regulate. The challenge is to anticipate and avoid risky pathways by counteracting forces that slow down and change course towards a more sustainable, peaceful and viable world, based on integrative and interdisciplinary knowledge which avoids dangerous pathways and interventions and takes the limits of the Anthropocene into account (Scheffran 2016). Concepts of anticipative and adaptive governance are needed to influence critical decision points and develop collective adaptive strategies, moving the planet through the complex and foggy landscapes of the future.

Bibliography

- Fröhlich, Christiane J. 2016. "Climate migrants as protestors? Dispelling misconceptions about global environmental change in pre-revolutionary Syria." *Contemporary Levant*, 1(1): 38-50.
- Kelley, Colin P., Shahrzad Mohtad, Mark A. Cane, Richard Seager, and Yochanan Kushnir. 2015. "Climate Change in the Fertile Crescent and Implications of the Recent Syrian Drought." *PNAS* 112(11): 3247-3252.
- Kominek, Jasmin and Jürgen Scheffran. 2012. "Cascading Processes and Path Dependency in Social Networks." In *Transnationale Vergesellschaftungen*, edited by Hans-Georg Soeffner. Wiesbaden.
- Link, P. Michael, Franziska Piontek, Jürgen Scheffran, and Janpeter Schilling. 2012. "On Foes and Flows." *L'Europe En Formation* 365: 99-138.
- Jasmin Kominek, and Jürgen Scheffran. 2013. "Impacts of accelerated sea level rise on the coastal zones of Egypt." *Mainzer Geographische Studien* 55: 79-94.
- Scheffran, Jürgen. 2008. "The complexity of security." *Complexity* 14(1): 13-21.
- 2015. "Complexity and Stability in Human-Environment Interaction." In *World Politics at the Edge of Chaos*, edited by Emilian Kavalski, 229-252. New York: SUNY Press.
- 2016. "From a Climate of Complexity to Sustainable Peace." In *Handbook on Sustainability Transition and Sustainable Peace*, edited by Brauch *et al.*, 305-346. Springer.
- and Hans Günter Brauch. 2014. "Conflicts and Security Risks of Climate Change in the Mediterranean Region." In *The Mediterranean Sea*, edited by Stefano Goffredo and Zvy Dubinsky, 625-640. Springer.
- Michael Brzoska, Jasmin Kominek, P. Michael Link, and Janpeter Schilling. 2008. "Climate Change and Violent Conflict." *Science* 336(6083): 869-71.
- Schilling, Janpeter, Korbinian P. Freier, Elke Hertig, and Jürgen Scheffran. 2012. "Climate change, vulnerability and adaptation in North Africa with focus on Morocco." *Agriculture Ecosystems & Environment* 156: 12-26.
- Urry, John. 2005. "The Complexity Turn." *Theory, Culture & Society* 22(5): 1-14.
- Werrell, Caitlin., Francesco Femia., and Anne-Marie Slaughter. 2013. "The Arab Spring and Climate Change." *Center for American Progress*. February 28.

<https://www.americanprogress.org/issues/security/reports/2013/02/28/54579/the-arab-spring-and-climate-change/>