

### Drought, flight, conflict: "climate migration" as a driver for conflict?

Fröhlich, Christiane

Veröffentlichungsversion / Published Version

Sammelwerksbeitrag / collection article

Zur Verfügung gestellt in Kooperation mit / provided in cooperation with:

GIGA German Institute of Global and Area Studies

#### Empfohlene Zitierung / Suggested Citation:

Fröhlich, C. (2020). Drought, flight, conflict: "climate migration" as a driver for conflict? In M. Brzoska, & J. Scheffran (Eds.), *Climate Change, Security Risks, and Violent Conflicts: Essays from Integrated Climate Research in Hamburg* (pp. 175-193). Hamburg: Hamburg University Press. <https://doi.org/10.15460/HUP.208>

#### Nutzungsbedingungen:

Dieser Text wird unter einer CC BY Lizenz (Namensnennung) zur Verfügung gestellt. Nähere Auskünfte zu den CC-Lizenzen finden Sie hier:

<https://creativecommons.org/licenses/by/4.0/deed.de>

#### Terms of use:

This document is made available under a CC BY Licence (Attribution). For more information see:

<https://creativecommons.org/licenses/by/4.0>

10 Drought, flight, conflict: “climate migration” as  
a driver for conflict?

*Christiane J. Fröhlich*

S. 175–193

aus:

# **Climate Change, Security Risks, and Violent Conflicts**

Essays from Integrated Climate Research  
in Hamburg

Edited by Michael Brzoska and Jürgen Scheffran

Hamburg University Press

Verlag der Staats- und Universitätsbibliothek Hamburg  
Carl von Ossietzky

# Impressum

## BIBLIOGRAFISCHE INFORMATION DER DEUTSCHEN NATIONALBIBLIOTHEK

Die Deutsche Nationalbibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliografie; detaillierte bibliografische Daten sind im Internet über <https://portal.dnb.de> abrufbar.

## LIZENZ

Das Werk einschließlich aller seiner Teile ist urheberrechtlich geschützt. Das Werk steht unter der Creative-Commons-Lizenz Namensnennung 4.0 International (CC BY 4.0, <https://creativecommons.org/licenses/by/4.0/legalcode.de>). Ausgenommen von der oben genannten Lizenz sind Abbildungen und sonstiges Drittmaterial.

## ONLINE-AUSGABE

Die Online-Ausgabe dieses Werkes ist eine Open-Access-Publikation und ist auf den Verlagswebseiten frei verfügbar. Die Deutsche Nationalbibliothek hat die Online-Ausgabe archiviert. Diese ist dauerhaft auf dem Archivserver der Deutschen Nationalbibliothek (<https://portal.dnb.de>) verfügbar.  
DOI <https://doi.org/10.15460/HUP.208>

ISBN 978-3-943423-81-5

## COVERABBILDUNG

Coverabbildung: Alexas\_Fotos (<https://pixabay.com/de/photos/sonnenuntergang-abend-romantisch-2180346/>) auf Pixabay (<https://pixabay.com/de/>)

## SCHRIFT

Alegreya. Copyright 2011: The Alegreya Project Authors (<https://github.com/huertatipografica/Alegreya>). This Font Software is licensed under the SIL Open Font License, Version 1.1. This license is also available with a FAQ at: <http://scripts.sil.org/OFL>

## DRUCK UND BINDUNG

Books on Demand – BoD, Norderstedt

## VERLAG

Hamburg University Press, Verlag der Staats- und Universitätsbibliothek Hamburg Carl von Ossietzky, Hamburg (Deutschland), 2020  
<http://hup.sub.uni-hamburg.de>

# Table of Contents

---

1	Introduction: Research on climate change and security in Hamburg <i>Michael Brzoska and Jürgen Scheffran</i>	1
2	Climate change and weather extremes as risk multipliers Tipping points, cascading events, and societal instability <i>Jürgen Scheffran</i>	19
3	Agrofuel expansion and black resistance in Brazil Energy landscapes as materialized unequal power relations <i>Martina Neuburger, Rafaela Rau, and Tobias Schmitt</i>	49
4	Interaction between wind energy, climate vulnerability, and violent conflict in Northern Kenya <i>Janpeter Schilling and Luise Werland</i>	67
5	The roadmap to energy security in Egypt <i>Mostafa Shaaban</i>	83
6	Water allocation in transboundary river systems in times of climate change <i>P. Michael Link</i>	103
7	Managing water-related vulnerability and resilience of urban communities in the Pearl River Delta <i>Liang Emlyn Yang</i>	121

- 8 Challenges and opportunities for historical irrigated agricultural systems in Mediterranean regions 143  
 Technical, cultural, and environmental assets for sustainable rural development in Ricote (Murcia, Spain)  
*Andrea L. Balbo, José María García Avilés, Johannes Hunink, Francisco Alcón, Juan Esteban Palenzuela Cruz, Julia Martínez-Fernández, Arnald Puy, Juan Miguel Rodríguez Lopez, Katharina Heider, Rodrigo García Abenza, and Jürgen Scheffran*
- 9 Sustainable access to rural and urban land by integrating local perspectives 163  
 The potential of using Information and Communication Technologies  
*Juan Miguel Rodríguez Lopez, Katharina Heider, Andrea L. Balbo and Jürgen Scheffran*
- 10 Drought, flight, conflict: “climate migration” as a driver for conflict? 175  
*Christiane J. Fröhlich*
- 11 Disrupting the knowledge-power politics of human mobility in the context of climate change 195  
 Questioning established categories  
*Sarah Louise Nash*
- 12 Explaining the diversity of resilience in the climate change and security discourse 209  
 Resilience in translation  
*Delf Rothe*
- 13 Climate change and planning for the military 229  
*Michael Brzoska*
- 14 How does path dependence affect the climate change-conflict nexus? 251  
*Jasmin S. A. Link*

15	Critical evaluation of the implementation of the concept of environmental security	263
	Case study of the Environment and Security Initiative (ENVSEC)	
	<i>Judith Nora Hardt</i>	
16	The Anthropocene: an opportunity for transdisciplinary and inclusive science?	287
	<i>Andrea L. Balbo, Delf Rothe, and Jürgen Scheffran</i>	
	About the authors	297



# 10 Drought, flight, conflict: “climate migration” as a driver for conflict?

---

Christiane J. Fröhlich

## Abstract

*So-called “climate migration”, i. e. human mobility following prolonged drought periods, floods, or other climate-related environmental changes, has been singled out as an important factor connecting climate change effects and (violent) conflict. However, the existing studies on this relationship do not offer a clear picture. Nevertheless, Syria has evolved into a “show case study” for this assumed linear causality: A “century drought” and ensuing internal migration are seen as an untold prequel of the Syrian uprising. This alarmist, determinist, and simplifying image is questioned and reviewed in order to answer the following questions: Was the Syrian drought related to or caused by climate change? Which role, if any, did it play for internal migration in pre-revolutionary Syria? What do we know about “drought migrants” and their role in the Syrian uprising? The article summarizes available research and adds to it by way of interviews with Syrian refugees.*

KEYWORDS: Drought, climate migration, climate change, conflict, Syria.



## Introduction

The hypothetical connections between anthropogenic climate change, violent conflict, and migration have garnered a lot of attention over the years. The common argument is that in the absence of adequate adaptation measures, the impacts of climate change, such as droughts, storms, heatwaves, floods, and sea-level rise, can be expected to create additional risks for livelihoods, especially among already poor and marginalized parts of a population. Such increased livelihood insecurity is then assumed to stimulate migratory movements to presumably safer or wealthier places (Abel et al. 2019), most obviously when areas become permanently uninhabitable, for instance due to sea-level rise (Klepp 2017; McNamara et al. 2016). Such migration processes are then often assumed to potentially fuel discontent and violence in receiving areas (Braithwaite et al. 2019; Ide 2015), especially when crossing from the Global South to the Global North (Ceccorulli and Labanca 2014). What is more, livelihood insecurity and resource scarcity are also hypothesized to result in higher inequalities and grievances, and hence a higher risk of armed conflict (Hsiang et al. 2013; Burke et al. 2009). Further, researchers are concerned that climate change facilitates a deterioration of the governance capacities of formal and informal institutions (Gleditsch 2012; Scheffran et al. 2012). The potential resulting unrest is often assumed to trigger additional migration flows. However, there are few systematic studies assessing these different causalities and securitization processes (Raleigh 2010; Raleigh et al. 2010; Reuveny 2007, 2008; Oels 2012).

This article singles out human mobility as a prominent assumed mediating factor between climate change on the one hand and conflict escalation on the other focusing on the Syrian case, which has become an often-cited case study of the climate change-migration-violence nexus. The debate on the relationship between the three phenomena is still not settled (Kelley et al. 2015; Selby et al. 2017; Ide 2018; Selby 2019). Drawing on interviews conducted in September and October 2014 in the Jordanian refugee camps Azraq and Zaatari as well as the Northern Jordanian cities Irbid and Ramtha, the paper reviews the assumed causalities between climate change and migration in the Syrian case.<sup>1</sup>

---

<sup>1</sup> In 30 semi-structured interviews with Syrian farming families from different governorates, I discussed local impacts of the drought, the extent and repercussions of internal migration, the role of migrants and non-migrants in the Syrian uprising, and the overall role of climate change impacts for the political protests, among others. Interviewees included non-migrants who had worked with/employed migrants as well as (a fewer number of) migrants, wage workers and large-scale land owners, activists, and people who did not participate in the protests. I spoke to both male and female heads of households.

## Climate migrants as protestors? The case of Syria<sup>2</sup>

The Syrian Arab Republic, as most of the Middle East and North Africa, has been suffering from long-term environmental changes, which are likely to be linked to anthropogenic climate change. In particular, an extended drought period from 2006 to 2009 entailed consecutive crop failures in parts of the country, loss of livestock, and a noticeable increase in internal migration (Selby et al. 2017; Ide 2018). For many commentators, this complex concoction of circumstances partly explains the timing and intensity of social upheaval in Syria (Werrell et al. 2015; Kelley et al. 2015; Bawden 2015; Friedman 2013). From the United States government (White House 2015) to the European Union (Juncker 2015), from US-American to European think tanks (Werrell et al. 2013; Rüttinger et al. 2015), this assumed prelude of the Syrian revolution is continuously gaining traction.

Migration decisions, however, are complex and not determined by environmental factors alone. Scholarship has identified five main drivers for (internal and international) human mobility (Black et al. 2011a, b), namely economic, political, demographic, social, and environmental factors, which are deeply interconnected and mediated through socially, politically, and economically determined institutions and structures. Migration also is not a new phenomenon in Syria. What is more, the securitization of (climate) migration needs to be critically assessed against the facts of global migration flows (Oels 2012). As mentioned above, migration is often seen as a security issue *per se*, especially with regard to migration to the Global North. With the impacts of climate change become increasingly visible, alarmist discourses about climate migrants are on the rise (Abel et al. 2019). However, it remains disputed how many people will leave their habitat due to climate change: So-called maximalists assume a simple, direct relationship between migration and climate change and thus project comparatively large numbers. Minimalists, on the contrary, underscore the complex nature of migration decisions and stress the respective society's vulnerability and adaptive capacity as major factors for reducing the expected number of climate migrants (Suhrke 1994; Castles 2002; Morrissey 2009; Gemenne 2011; Morrissey 2012). Moreover, orchestrating popular protest requires social networks built on trust and at least some kind of organizational structure (McAdam et al. 1996; Tarrow 2011; Diani and McAdam 2003a; Chesters and Welsh 2011). It remains unclear how new migrants, often living below the poverty line, can initiate large-scale, long-lasting popular uprisings, especially in repressive autocratic regimes like Syria.

This paper analyses the complex migration decision-making in Syria before 2011. It concludes that while climate change effects in Syria are real, and were indeed one of several reasons for internal migration prior to the conflict, they were certainly not the

---

<sup>2</sup> The following is based on Fröhlich (2016).

only, let alone the main reason for the outbreak of the uprising. The paper interrogates the conditions for initiating social protest in autocratic regimes and complicates the relationship between climate change effects, internal migration, and conflict.

### Environmental drivers

There is little doubt that climate change effects in Syria are real. In the last 20 years, ten of the driest 12 winters worldwide occurred in the countries surrounding the Mediterranean Sea (NOAA 2011; Hoerling et al. 2012). NOAA's Earth System Research Laboratory concludes that the magnitude and frequency of the drying is too great to be explained by natural variability alone. Nevertheless, it is worth noting that droughts and rainfall variability have been quite common in the region, as the instrumental record shows. It is also not contested that internal migration following a prolonged drought period 2006–09 led to an increase in internal migration, especially from the Northern governorates to the South and the coast; the most commonly cited figure is that of 1.5 million for the period of the drought, but these are estimates only: exact numbers are scant. In 2010 alone, 50 000 families supposedly set off from the North (Worth 2010; Werrell et al. 2015; Gleick 2014) to the cities, mainly due to environmental drivers of migration, as the common argument has it. In order to better understand the drought's impact on the scale and patterns of migration before 2010, however, a look at changes in natural resource availability, especially land and water, as well as intersections with other migration drivers seems useful.

Syria is roughly as big as Spain, but only around 25 per cent of its 185 000 square kilometers are arable land – about the size of Switzerland. Most of Syrian land is desert, some is suitable for grazing, but less than 10 per cent of the surface is permanent cropland.<sup>3</sup> Between 2002 and 2008, Syria's total water resources declined by half, partly through overuse and waste (Gleick 2014; Feitelson and Tubi 2017). In 2011, Syrians had access to just 325 m<sup>3</sup> of water per capita from internal renewable freshwater resources, a number which has been declining for decades (in 1987, it was still 627 m<sup>3</sup>)<sup>4</sup>, and which is a far cry from the UN scarcity level of 1000 m<sup>3</sup>. Ground water resources have long been overused, while Turkey and Iraq have gradually reduced the flow of the Euphrates since the mid-1980s. One interviewee from Deir az-Zur explained the following: "Of course there were changes when Hafiz al-Assad severed the connection to the river in 1986. Something happened between him and Turkey,

<sup>3</sup> Cf. [http://sdwebx.worldbank.org/climateportalb/home.cfm?page=country\\_profile&CCode=SYR](http://sdwebx.worldbank.org/climateportalb/home.cfm?page=country_profile&CCode=SYR), last accessed 10 December 2015.

<sup>4</sup> World Bank, "Renewable internal freshwater resources per capita (cubic meters)", <http://data.worldbank.org/indicator/ER.H2O.INTR.PC/countries/TN-LY-SY-1A-1W?display=graph>, last accessed 10 December 2015.

so that he severed that connection. It was about fresh water and they ended our access to the river. Before 1986, it was very good. The people lived, if not from the land, then from fish, from the water" (Interview Zaatari, 28.9.2014). More and more small-scale landholders and agriculturalists depended on rain-fed agriculture, making them particularly vulnerable to weather extremes, drought and precipitation variability. Moreover, misuse and mismanagement of old and new irrigation systems gradually generated infertility in the soil, and unintended consequences of big dam projects caused negative impacts on the ecosystem.

Overall, the limited availability of water, together with bad governance in the natural resource sector, resulted in only 13 500 square kilometers of land being irrigated in 2010, with agricultural production falling considerably (Polk 2013). At that time, the overall population had reached 21.5 million; equaling 0.86 hectare (ha) of arable land per person, of which only 0.062 ha could be irrigated in 2010 due to the drought. The FAO defines the absolute minimum of arable land to support one person to be 0.07 hectares, assuming a largely vegetarian diet, no land degradation or water shortages, virtually no post-harvest waste, and farmers who know precisely when and how to plant, fertilize, irrigate etc. (FAO 1993). In the case of increased water scarcity, rainfall variability, and dust storms, the probability of failing crops and/or decreasing agricultural production tends to rise. In such a context, 0.062 ha are a very small amount of land, especially in a country, in which a high percentage of livelihoods still depends on agriculture. In 2002, more than 30 per cent of Syrians had been employed in agriculture; eight years later, this number had been halved in the overall workforce.<sup>5</sup>

In a nutshell, environmental pressure indeed seems to have been rising, but was also exacerbated by unsustainable governance. Moreover, environmental drivers often operate through non-environmental causes (Hugo 2013). A migrant who moves because he can no longer sustain himself through agriculture as a result of drought and ensuing land degradation will often categorize the reasons for his movement as economic, not environmental. This entails what Castles (2002) has termed "conceptual fuzziness". It is rather difficult to determine the extent to which the environment has played a role in a specific migration decision, unless migration has followed a fast-onset environmental event like a flood. This paper therefore suggests that the outcomes of environmental drivers – migration, displacement and immobility (Black et al. 2013) – are best understood as being embedded in their associated socio-economic, political, and demographic processes.

---

<sup>5</sup> World Bank, "World development indicators – employment in agriculture (% of total employment)", <http://data.worldbank.org/indicator/SL.AGR.empl.LZs/countries/1W-LY-tn-eG-sY?display=graph>, last accessed 10 December 2015.

## Economic drivers

Economy-related phenomena have substantial effects on migration decisions. The term economic drivers refers to differences between income levels in the origin and destination areas as well as to income variability in the originating areas (Lilleør and Van den Broeck 2011). Economic hardships like unemployment and poverty are among the most prominent examples. According to a study by the European University Institute (Aïta 2009), which critically assesses official Syrian data sets as well as data gathered by international bodies like the UN and the International Labour Organisation (ILO), the Syrian state only created around 36 000 new jobs per year between 2001 and 2007, with the agricultural sector losing 69 000 per annum (Aïta 2009, p. 5). At the same time, Aïta estimates the overall unemployment rate in Syria to be 30.3 per cent in 2007 (including Palestinians, non-citizen Kurds and Iraqi immigrants), translating into the need to create 353 000 jobs per year if the unemployment rate were to drop to 11 % by 2015 (Aïta 2009, p. 22). The government's 10th five-year-plan had been to reach 8 % unemployment by 2010 (State Planning Commission 2005).

Thus, employment seems to have been a very serious issue in the Syrian economy long before the drought began. Modernization, rapid de-peasantization and slow replacement of agricultural employment with waged work in industry or services in the formal sector had taken their toll on both rural and urban environments. While the loss of working-age population to urban spaces had slowed down productivity in rural areas, production in urban areas did not rise fast enough for a sustainable urbanization. Referring to Dar`a, where he worked in the early 2000s, a farmer from Deir az-Zur felt that, "Young people like me just wanted to work. They wanted to live. We had nothing to do and were smoking the whole day" (Interview Zaatari 28.9.2014).

Macro-economic policies of the Syrian government, which for decades had regulated agricultural crops, served as another economic push factor. The government's numerous five-year and annual production plans had specified areas for crops, the types of crops to be planted as well as crop rotation patterns, effectively imposing a state-led system on the agricultural sector, beginning in the mid-20th century. This agricultural policy was defined by subsidies for farm inputs and fuels, especially for strategic crops such as wheat, cotton, and barley. A report by Olivier de Schutter, the Special Rapporteur for the Right to Food to the UN, explains this with the national goal of reaching self-sufficiency of main staples in order to achieve food security (De Schutter 2011, p. 15). Ensuing changes in traditional land and agricultural regimes had a detrimental impact on both the productivity in general and the income of already marginalized parts of the population, like small-scale landowners. At the same time, state-led structures introduced strong dependencies into the agricultural sector that were to become liabilities when Bashar al-Assad started to deregulate the

Syrian economy into what the 10th five-year-plan calls “an open competitive economy”<sup>6</sup>.

Bashar al-Assad began his first term in 2000 with a speech focusing on reform as his vision for Syria’s further development, and started out addressing the numerous challenges facing Syria by introducing political, economic, and administrative reforms. Overall, this “fresh start” was met with hope and enthusiasm by the Syrian population, but even more by outside observers who especially applauded the neoliberal deregulatory plans of the new government. However, the reforms were half-hearted at best: Bashar al-Assad introduced economic reforms that promoted better tax collection and the reduction of subsidies but failed to address the endemic corruption and the lack of public accountability. While the limited economic reforms are considered responsible for the improvement in growth rates as well as for finding a substitute for decreasing oil revenues (see below), they did not create a diverse and sustainable economy, which would have been necessary to address the above-mentioned deficiencies in the labor market.

Moreover, an economy that had been based on rents from the oil sector started to give way to demographic pressures, a decrease in oil-production, depleting oil reserves, and economic stagnation. These led to an overall decreasing standard of living. Syria’s oil resources (conventional production), which had peaked in 1996, began to place a pronounced and continuous strain on the Syrian economy since the early 2000s. The country’s oil production rate plummeted from approximately 580 000 barrels a day in 1996<sup>7</sup> to around 369 000 barrels per day in 2007<sup>8</sup>. Profits from this sector continuously decreased and added to the fiscal deficit, leading to a cut in fuel subsidies in May 2008 – at that time consuming 15 per cent of the Syrian GDP<sup>9</sup>. The price of petrol tripled (some say quadrupled) overnight, amplifying the pressure on food prices. Since fuel is required to operate water pumps, the rising petrol price led to a rise in water prices, which in turn impacted food prices. However, the drought had already begun to take its toll, adding to a rather strained situation in the food market and the water sector, to say the very least. These economic factors contributed to more and more Syrians needing to diversify their income, often necessitating migration from rural areas to the cities.

<sup>6</sup> Cf. [http://planning.gov.sy/en\\_index.php?act=552&cat=172](http://planning.gov.sy/en_index.php?act=552&cat=172), last accessed 10 December 2015.

<sup>7</sup> Equalling approximately 81.2 kilotons per day, see International Energy Agency (IEA), <http://www.iea.org/statistics/statisticssearch/report/?year=1996&country=SYRIA&product=Balances>, last accessed 10 December 2015.

<sup>8</sup> Equalling approximately 51.7 kilotons per day, see International Energy Agency (IEA) <http://www.iea.org/statistics/statisticssearch/report/?country=SYRIA&product=balances&year=2007>, last accessed 10 December 2015.

<sup>9</sup> Cf. <http://www.irinnews.org/report/79006/syria-bread-subsidies-under-threat-as-drought-hits-wheat-production>, last accessed 10 December 2015.

## Socio-political and demographic drivers

Among the most prominent socio-political drivers of migration are political violence, war, discrimination, and persecution. Not unlike other authoritarian states, Syria under Assad rule endorsed the simple formula “loyalty for patronage” (Ghrawi 2015). The rule of law was ambivalent, state institutions were characterized by manipulation and poor performance, the business environment was extremely fragile, corruption abounded, and Syrian citizens had little to no avenue to participate in political decision-making processes. Power and wealth were being distributed along highly informal but extremely resilient patronage networks. Nonetheless, the decade-old strategy of repressing those who advocated *taghyir* (change), while at the same time attempting to bind those advocating *islah* (reform) in patronage networks, began to crumble.

Bashar al-Assad’s applauded state reforms quickly faced resistance from the governing elite and other stakeholders, the so-called “crony capitalists”, who were unwilling to give up privileges. Administrative reforms proved difficult as they threatened the established balance of power. They were soon reduced to limited improvement of services without tackling the public administration’s main deficiencies. Where reform had taken place, it did not reach far enough into the rural spaces or urban peripheries. In fact, urban centers such as Damascus and Aleppo had lost touch with the rural areas that dominate the rest of the country, resulting in policies that increasingly marginalized the rural population, further contributing to its hardships. The social contract between government and population began to erode, with socio-political grievances intensifying and calls for change growing louder. In pre-revolutionary Syria, policy incentives such as changes in land ownership regulations also played a part in driving people to leave, as well as the search for educational opportunities and obligations to kin.

With the effects of the war in Iraq, the country also began to experience a gradual islamization. Hoping to contain the rising Islamist movement, Bashar al-Assad sponsored various Sufi brotherhoods and established direct contact with the illegal Muslim Brotherhood, hoping to curb jihadi influence in the country. Yet, insurgents kept infiltrating from Iraq, as became evident in the violent emergence of factions such as *Jund al-Sham* and *Fatah al-Islam*. Assad’s foreign policy mistakes in Iraq and Lebanon, moreover, set off severe Western diplomatic retaliation and culminated in the collapse of the Syrian hegemony in Lebanon, depriving Syria of billions of dollars in annual revenue, adding to the critical situation on the labor market as well as the difficult economic situation.

Finally, demographic drivers include population density and structure, for instance the pressures exerted by a “youth bulge” (Fuller 2004; Urdal 2006), an unusu-

ally large percentage of young people among the overall population. Syria's population growth was estimated at around 2.45 % per year in the pre-war years (Aita 2009, p. 14). Before the uprising, the growth rate of the working-age population was higher than 4 % per annum (*ibid.*). It is not surprising that the working-age population growth rate was higher in urban areas due to increasing rural to urban migration and the influx of Iraqi refugees (Hoffmann 2016), which these data take into account. Young age groups (15–25) constituted the majority of new job seekers in the Syrian labor market. Between 1998 and 2002, over 200 000 people entered the job market every year. By the 2000s, Syria was facing its largest growth rates of labor supply as a result of the coming of age of the children of the 1980s, a baby boom period, and their ensuing arrival in the job market. The influx of one and a half million Iraqis after the war began in 2003 (Hoffmann 2016) as well as the return of hundreds of thousands of Syrian circular workers from Lebanon from 2005 onwards (Fargues 2009) also affected labor supply and the overall labor market structures in Syria. Beginning in the mid-1970s, many, mostly low skilled Syrians had emigrated to Lebanon, where the civil war had created labor shortages. This emigration continued until 2005 when the former Lebanese Prime Minister Rafiq Hariri was assassinated and Assad withdrew his army, leading to a deterioration of the already precarious living conditions of Syrian workers in Lebanon (Chalcraft 2008).

### Pre-established migration corridors

While environmental drivers for migration certainly existed in pre-revolutionary Syria, they were embedded in a complex economic, social, political, and demographic context that heavily influenced migration decisions. Out-migration to Lebanon, Jordan, and the Gulf was a common practice. More significantly, internal migration was by no means a new phenomenon in Syria (Khawaja 2002). Circular, seasonal migration had been quite common for decades, especially since landlessness in Syria had been growing continuously despite attempts to curb its effects by means of redistributive land reform and public land distribution since the 1950s. Nearly half of Syria's approximately 20 million residents (including Palestinians and Iraqis) lived in rural areas before the outbreak of the current civil war. Bashar al-Assad's aforementioned reforms favored large-scale land owners over small-scale farmers or sharecroppers, making the landless the weakest link in the agricultural labor chain. It is specifically the landless who were under high pressure to diversify their income. Over the years, seasonal migration became a common livelihood strategy.

Single males from the Northern governorates of Deir az-Zur, Raqa, and Hasakah usually spent the summer season working on agricultural projects in the South until autumn when they would return. A Bedouin interviewee from Deir az-



Zur, who had to migrate to Dar`a in 2000 because his land was confiscated by the government due to political repression and prosecution, described the process as follows: “We had been employing people who ploughed the land for us. Then it was the other way around, we ploughed for other people” (Interview Zaatari 28.9.2014).

With the beginning of the drought, however, the number of migrants began to rise and whole families began to migrate mostly from the North towards the South and West of the country. One of the farmers I interviewed from Dar`a governorate, which became a receiving area, explained the following:

*CF:* Did you work with migrants?

*I:* Yes, they came to us [to work in agriculture]. Most came from Deir az-Zur, some also from Hama.

*CF:* Did the number of migrants change?

*I:* It grew. They had a drought in their area, that’s why.

*CF:* When did it begin to increase?

*I:* From 2005 onwards.

*CF:* Did they live on the land? Did they bring the whole families or was it just adults?

*I:* They came as whole families and lived in tents. They came to the areas where agricultural projects were run, worked there, and then went back home. For instance, they lived behind our house and got water and electricity from us. They also got food and water from us.

*CF:* Do you remember how much they got paid?

*I:* It varied between 40 and 100 Lira per hour [100 Syrian Lira equaled about 2 US Dollars before the war]. Usually between 40 and 60 Lira, sometimes up to 80 Lira. (Interview Zaatari, 6.10.2014).

The material I gathered contradicts the common assumption that migration patterns in Syria were predominantly rural to urban. It therefore challenges the idea that migrants necessarily placed great strain on already pressured urban populations and thereby contributed to or even single-handedly created the basis for the imminent popular uprising (Werrell et al. 2015). It is, of course, true that those who did not want or were not able to work in agriculture would mostly migrate from rural to urban areas; they were often better educated than the day workers in the agricultural projects. As one interviewee from Raqqa explained:

There were young people who left their parents to look for work. It was particularly young people with degrees like doctors and teachers. Some were also blacksmiths or car mechanics and went to Damascus, because it is bigger, or to another place (Interview Azraq, 9.10.2014).

Many others, however, would follow established "migration corridors" to rural areas (Özden and Schiff 2007, p. 40f), which had developed over decades. Those involved less transaction costs than non-linear moves, or what is known as "chain migration", to new destinations.

As this section shows, migration decisions are complex and influenced by several inter-related factors that create conceptual fuzziness. We need to unpack these complexities to understand the impact of environmental change on human mobility and the relationship between internal migration movements and social upheaval.

### Migrants as protesters?

Could the internal migrants have contributed to the outbreak of the Syrian uprising in Dar`a in March 2011? One way of answering this question is through social movement theory, which sees social networks as the prime mode of organization for collective action – with formal networks gradually substituted by less formal networks on a more grassroots, interpersonal level (McAdam et al. 1996; Tarrow 2011; Chesters and Welsh 2011; Diani and McAdam 2003b). Thus, social networks form the basis of social movements. Consequently, the protests in Dar`a must have been built on at least loosely organized social networks and its initiators must have been embedded in them.

But how does a network of interpersonal relations evolve into collective action? For this, the role of trust is key: according to Niklas Luhmann, trust is what makes collective life possible (Luhmann 1988, p. 97). Trust is also a prerequisite to building a common identity, which in turn is the basis for any social movement. Thus, in order to achieve collective action, individuals have to come together expecting that they will protect and promote each other's interests in unforeseen circumstances with a common goal. In other words, they need to trust each other. This is particularly true, even existential, in an autocratic, extremely repressive state like Syria. As one of my interviewees warned: "The state says: Do what you want. But do not talk about politics and keep away from it" (Interview Zaatari, 6.10.2014). Another common description of the overall living conditions within Syria before the revolution was the image of "the walls having ears". It is common knowledge that the Syrian government had threatened to respond to verbal or physical opposition with brutal force; historical precedents like the protests in Hama 1982 provided an idea of what that may look like. It was extremely dangerous and risky, therefore, to protest against the Syrian government. The question is how likely it is that migrants, who often lived below the poverty line, could have built the trust necessary to mobilize a social movement under such circumstances. How did a large group of people whose identities and daily lives were forcefully oriented towards the private, the personal, and the mundane, decide to participate in collective action? Which role did migrants play in this mobilization process?

I suggest we answer these questions by unpacking three key possibilities. The first is “opportunity”, the emergence of a particular situation, in which it appears feasible to achieve meaningful change through collective action. This condition was fulfilled by the Arab revolutions that preceded the Syrian one, namely in Egypt, Tunisia, Libya, and Yemen. They demonstrated the demise of autocratic regimes and the triumph of civil opposition. Information about these developments was available through traditional and new media and through social ties between the Syrian population and the societies affected by the Arab Spring. In this sense, the opportunity existed for Syrian internal migrants to rebel, as it seemed possible that an uprising in Syria could be as successful as it had been in comparable autocratic states like Egypt.

The second issue is what Doug McAdam has termed “threat” (McAdam 1999; Tilly and Tarrow 2012). Disadvantaged and power-deprived people usually live their lives “within a habituated framework of subordination” (Flacks 2004, p. 148). “In Syria, you have to rely on yourself,” one interviewee from Ramtha asserted (Interview 10.10.14). Another from Dar`a said: “Generally speaking, our village was isolated. Neither the state came close to us, nor did we come close to the state. Everyone focused on their own business” (Interview Zaatari, 3.10.14). To illustrate the government’s practices of subordination, one interviewee from Deir Baba (Homs Governorate) related what happened one day when he went to the traffic bureau to release a friend’s clamped car. A police officer asked him where he was going and told him to leave. He said he was quite upset by this and asked why the officer was talking to him in that hostile manner. “I told him I usually come here. I said that I was not coming to his father’s house, was I? It is a government institution. They imprisoned me, I “kissed his beard” and slaughtered a sheep until the issue was solved.” The interviewee, conveying the exaggerated repercussions of life in Syria, came to the conclusion that “one, who said one word, was imprisoned for life” (Interview Zaatari, 3.10.14).

Such habitually subordinated people become ready for collective action not only because they consider themselves unfree or deprived – this is not more than their day-to-day life for them. They rather mobilize because they share “the perception of a specific threat to their accustomed lifeways” (Flacks 2004, p. 148). Importantly, this perception of threat must be shared and the source of the threat needs to be identified as one specific human actor, as opposed to a natural event (Flacks 2004, p. 148)<sup>10</sup>. In the case of Syria, the different socio-political, demographic, and economic pressures outlined above resulted in the common view that life as it had been under the rule of Hafiz al-Assad, authoritarian and repressive as it may have been, had come to be threatened by Bashar al-Assad’s rule.

---

<sup>10</sup> Nevertheless, social movement theory does not have an adequate answer to the question as to when the reaction to threats and repression turns from submission into defiance and open opposition (Davenport et al. 2004; Earl 2011; Pierskalla 2010).

The third issue is "liberation". There are times in which a large group of people who share a certain way of life may turn to collective action to achieve new living conditions rather than defending the existing ones. In this case, collective action aims at rejecting and overturning established frameworks of identity, achieving rights hitherto denied, and voicing demands for equal treatment, dignity, and the ability to determine one's own life (Flacks 2004, p. 149). This was certainly the case in Syria where demonstrators from the beginning and to this day have demanded freedom and dignity. As Richard Flacks argues,

Liberatory perspectives arise among groups of people who share a condition of subordination, disadvantage, or stigma over which they have little or no individual control. Such subordination, based on race, ethnicity, gender, sexual orientation, physical handicap, or any other "ascribed" trait, tends to be regarded in the dominant culture as a normal, taken-for-granted feature of everyday life. Those who are so subordinated have typically accommodated to their situation for generations, seeming to reproduce in their own conformity the conditions of their oppression. (Flacks 2004, p. 149)

Leenders (2013) and Gerlach (2015) both cite a story about the immediate causes of the Syrian revolution. Two women from different Dar`a clans had been arrested and abused by authorities. This was, as the story goes, followed by anti-regime graffiti, which had been drawn by 15 school children in their defense. The children were subsequently arrested and tortured. Attempts to mediate their release were met by rejection and insult. The local security chief, Atef Najeeb, shockingly suggested "sending local women to conceive some new kids [to replace the arrested ones]" (Leenders 2013, p. 279). Consequently, the people of Dar`a rallied in protest and defiance, purportedly shouting "to hell with you" to security forces who opened fire. It can be argued that the people of Dar`a collectively identified a common threat, which became the basis for collective action to achieve liberation from it. The shared everyday life provided space to develop both trust and a common language of oppression; in short: a shared sense of identity.

Social movement theory considers social networks to be crucial for the mobilization of collective action, especially in the context of seemingly insurmountable obstacles (Diani and McAdam 2003b; McAdam et al. 2001; Einwohner and Maher 2011). Dar`a's local society was characterized by "dense, interlinked social networks affecting social, economic, and cultural life. These networks informed, motivated and enabled unprecedented mobilization [...]" (Leenders 2013, p. 277). Leenders particularly stresses the role of Dar`a's family clan structure in mediating social and economic cross-border ties beyond Syria. These include criminal networks as well as circular labor migration to Lebanon, Jordan, and the Gulf. Such elaborate and trust-based

social networks “link[ed] family or clan members, traders, money exchangers, smugglers, truck drivers, taxi drivers and bahara [‘sailors’, informal taxis transporting people and smuggled goods], and corrupt customs officials” (Leenders 2013, p. 278). While social networks enabled mobilization of liberation movements, however, the cost of the protests was too high for many people. “Of course I believed in the protests,” one interviewee from Dar`a exclaimed. “But we are very poor. People like us have been hit [by the revolution] and died. We went to rack and ruins. We, the poor people, suffered most. Whether Bashar al-Assad stays or goes does not matter” (Interview Zaatari, 3.10.14).

Leender’s and others’ analysis of social movement theory – and the role of trust and shared identity – raises the question about migrants’ conditions of involvement. I suggest that migrants could not have achieved a common identity with the people from Dar`a, and thus could not have orchestrated political demonstrations of this magnitude and scale. While many migrants came regularly, they only spent some time of the year in and around the city. Even when numbers rose and migrants began to stay in and around Dar`a permanently, they did not integrate meaningfully with the local populace, and did not identify as Dar`awis. This is indicated both by the way in which locals referred to the migrants – as people outside of the community, as different and alien – and the way migrants themselves spoke about their lives there. The migrants were clearly a group of outsiders according to social identity theory (Tajfel and Turner 1986), as confirmed by the following farmer from Dar`a who had worked with migrants and was familiar with their conditions: “They came from the North, from Hasakah, and this region. Their number increased. In some villages, there were more migrants than locals. They lived in tents. They could be found everywhere and they worked in all [agricultural] projects. They had a difficult life, no assistance, and lived in tents. They had nothing to do with politics. They went to work and back home” (Interview Zaatari, 30.12.2014).

If migrants were not the initiators of the protests, it is relevant to ask whether they sympathized or even took part in the uprising in Dar`a. After all, outsiders may have recognized their own longstanding grievances in the claims made by the local protesters. They may have subsequently joined the uprising and contributed to its diffusion and enduring strength. My research indicates that migrants, if they joined the protests at all, did so in their home governorates and not in the areas they migrated to. In fact, the Dar`awis I interviewed in Jordan were divided between two positions. Some saw migrants as passive outsiders who were incapable of protesting due to their poor conditions. One interviewee from Dar`a pointed out that “in the first year some of the muhajirin (migrants) stayed. But when the troubles grew, they left” (Interview Ramtha, 10.10.2014). Another stated, “they left at the beginning of the demonstrations” (Interview Zaatari, 7.1.2015). Other more skeptical interviewees

deemed the migrants to be suspicious pro-regime agents who were against the protests, an aspect that underlines the lack of trust between Dar`awis and migrants. "They were all pro-Assad", one interviewee insisted. "When the troubles started, they shouted pro Assad slogans. Even though they were poor people. Of 100, maybe ten are not pro Assad. They loved him, because many of them and their friends and families were in the army" (Interview Zaatari, 6.10.14). While the three conditions for collective action, opportunity, threat, and liberation, did exist in settings such as Dar`a prior to the Syrian uprising, it was not the (climate) migrants who initiated the protests. My data suggest that the migrants were too marginalized and outside of the strong Dar`awi identity to be able to initiate any social action.

### Concluding remarks

This article shows that environmental factors were only one and certainly not the decisive element of individual migration decisions made in pre-revolutionary Syria. While it is true that climate change has had and will continue to have potentially adverse effects on Syria and the whole Middle Eastern region, I have argued here that orchestrating a protest of the scale, intensity, and permanence of the one in Dar`a was well beyond the climate migrants' social capacities and resources. In line with this, the majority of my interviewees considered the protests to be a reaction to state repression and mismanagement. Seeing the drought hit the Northern governorates, seeing the numbers of migrants on their agricultural production sites increase, and seeing men, women, and children work on the fields for very low wages only added to their sense of the increasing decline of the social contract between the government and the population. As one interviewee put it,

When Bashar came to power, the differences and the gap [between rich and poor] became very big. An employee received thirty thousand a month, while a worker only received four or five hundred Lira per month. Only employees received raises, normal workers received no subsidies at all. I said that the country would collapse if it were ruled by children. Bashar was only 33 years old. He had no wisdom and no leadership. He had a weak personality (Interview Zaatari, 3.1.2015).

As this article demonstrates, connecting the Syrian uprising to climate change via migration is walking a thin line between the noble goal to raise awareness for the potentially severe and adverse effects of climate change on social systems in the hope of engendering an overdue policy shift to save the planet on the one hand, and the risk of absolving the Syrian regime from its responsibility for the unmitigated effects of the drought and of fueling discourses of re-nationalization and walling-off as well

as anti-immigration sentiments on the other. This needs to be reflected in all attempts to rebuild Syria, as both large migration flows and climate change impacts are likely to continue to affect the Middle East.

## References

- Abel, G. J., M. Brottrager, J. Crespo Cuaresma, and R. Muttarak, 2019: Climate, conflict and forced migration. *Global Environmental Change*, 54, 239–249.
- Aïta, S., 2009: Labour markets performance and migration flows in Syria. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.472.2188&rep=rep1&type=pdf>, last accessed 8 August 2019.
- Bawden, T., 2015: Climate change key in Syrian conflict – and it will trigger more war in the future. *The Independent*. <http://www.independent.co.uk/news/world/middle-east/climate-change-key-in-syrianconflict-and-it-will-trigger-more-war-in-future-10081163.html>, last accessed 8 August 2019.
- Black, R., W. N. Adger, N. W. Arnell, S. Dercon, A. Geddes, and D. Thomas, 2011a: The effect of environmental change on human migration. *Global Environmental Change*, 21, S3–S11.
- Black, R, D. Kniveton, and K. Schmidt-Verkerk, 2011b: Migration and Climate Change: Towards an Integrated Assessment of Sensitivity. *Environment and Planning A*, 43, 431–450.
- Black, R, N. W. Arnell, W. N. Adger, D. Thomas, and A. Geddes, 2013: Migration, immobility and displacement outcomes following extreme events. *Environmental Science & Policy*, 27, S32–S43.
- Braithwaite, A., I. Salehyan, and B. Savun, 2019: Refugees, forced migration, and conflict: Introduction to the special issue. *Journal of Peace Research*, 56, 5–11.
- Burke, M. B., E. Miguel, S. Satyanath, J. S. Dykema, and D. B. Lobell, 2009: Warming increases the risk of Civil War in Africa. *Proceedings of the National Academy of Sciences*, 20670–20674.
- Castles, S., 2002: Migration and Community Formation under Conditions of Globalization. *International Migration Review*, 36, 1143–1168.
- Ceccorulli, M. and N. Labanca, 2014: *The EU, Migration and the Politics of Administrative Detention*. Routledge, Milton Park, New York.
- Chalcraft, J. T., 2008: *The invisible cage: Syrian migrant workers in Lebanon*. Stanford: Stanford University Press.
- Chesters, G. and I. Welsh, 2011: *Social movements: the key concepts*. London: Routledge.
- De Schutter, O., 2011: Report of the Special Rapporteur on the right to food. United Nations.
- Diani, M. and D. McAdam, 2003a: *Social Movements and Networks*. Oxford: Oxford University Press, <http://www.oxfordscholarship.com/view/10.1093/0199251789.001.0001/acprof-9780199251780>, last accessed 8 August 2019.
- Diani, M. and D. McAdam, 2003b: Introduction: social movements, contentious actions, and social networks. “From Metaphor to Substance”? In M. Diani and D. McAdam, eds., *Social Movements and Networks*, Oxford: Oxford University Press, 1–18 <http://www.oxfordscholarship.com/view/10.1093/0199251789.001.0001/acprof-9780199251780>, last accessed 8 August 2019.

- Einwohner, R. L. and T. V. Maher, 2011: Threat assessment and collective-action emergence: camp and ghetto resistance during the Holocaust. *Mobilization: an International Journal*, 16, 127–146.
- FAO, 1993: *The state of food and agriculture*. Rome: Food and Agriculture Organization.
- Fargues, P., 2009: Work, Refuge, Transit: An Emerging Pattern of Irregular Immigration South and East of the Mediterranean. *International Migration Review*, 43, 544–577.
- Feitelson, E. and A. Tubi, 2017: A main driver or an intermediate variable? Climate change, water and security in the Middle East. *Global Environmental Change*, 44, 39–48.
- Flacks, R., 2004: Knowledge for what? Thoughts on the state of social movement studies. Rethinking social movements: structure, meaning, and emotion, In: J. Goodwin, and J. M. Jasper, eds., *People, passions, and power*, Lanham: Rowman & Littlefield, 135–153.
- Friedman, T. L., 2013: The scary hidden stressor. *The New York Times*, March 3 <http://www.nytimes.com/2013/03/03/opinion/sunday/friedman-the-scary-hidden-stressor.html>, last accessed 8 August 2019.
- Fröhlich, C., 2016: Climate migrants as protestors? Dispelling misconceptions about global environmental change in pre-revolutionary Syria. *Contemporary Levant*, 1, 38–50.
- Fuller, G., 2004: *The youth crisis in Middle Eastern society*. IPSU, Michigan, <http://www.ispu.org/pdfs/graham%20fuller%20paper.pdf>, last accessed 8 August 2019.
- Gemenne, F., 2011: How they became the human face of climate change. Research and policy interactions in the birth of the 'environmental migration' concept. In: E. Piguat, A. Pécouc, and P. De Guchteneire, eds., *Migration and climate change*, Cambridge: Cambridge University Press, 225–259.
- Gerlach, D., 2015: *Herrschaft über Syrien. Macht und Manipulation unter Assad*. Hamburg: Körber-Stiftung.
- Ghrawi, A. N., 2015: *An elusive hope. State reform in Syria 2000–2007*. Berlin: Klaus Schwarz Verlag.
- Gleditsch, N. P., 2012: Whither the weather? Climate change and conflict. *Journal of Peace Research*, 49, 3–9.
- Gleick, P. H., 2014: Water, Drought, Climate Change, and Conflict in Syria. *Weather, Climate, and Society*, 6, 331–340.
- Hoerling, M., J. Eischeid, J. Perlwitz, X. Quan, T. Zhang, and P. Pegion, 2012: On the Increased Frequency of Mediterranean Drought. *Journal of Climate*, 25, 2146–2161.
- Hoffmann, S., 2016: *Iraqi Migrants in Syria: The Crisis before the Storm*. Syracuse: Syracuse University Press.
- Hsiang, S. M., M. Burke, and E. Miguel, 2013: Quantifying the Influence of Climate on Human Conflict. *Science*, 341, 1235367–1235367.
- Hugo, G., 2013: Introduction. In: G. Hugo, ed., *Migration and climate change*. Cheltenham: Edward Elgar Publishing, xv–xlii.
- Ide, T., 2015: Why do conflicts over scarce renewable resources turn violent? A qualitative comparative analysis *Global Environmental Change*, 33, 61–70.
- Ide, T., 2018: Climate War in the Middle East? Drought, the Syrian Civil War and the State of Climate-Conflict Research. *Current Climate Change Reports*, 4(4)-347–454.
- Juncker, J.-C., 2015: State of the Union 2015: time for honesty, unity and solidarity. [http://europa.eu/rapid/press-release\\_SPEECH-15-5614\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-15-5614_en.htm), last accessed 8 August 2019.



- Kelley, C. P., S. Mohtadi, M. A. Cane, R. Seager, and Y. Kushnir, 2015: Climate change in the Fertile Crescent and implications of the recent Syrian drought. *Proceedings of the National Academy of Sciences*, 112, 3241–3246.
- Khawaja, M., 2002: Internal migration in Syria: findings from a national survey. Oslo: Fafo.
- Klepp, S., 2017: Climate Change and Migration. *Oxford Research Encyclopedia of Climate Science*. <https://oxfordre.com/climatescience/view/10.1093/acrefore/9780190228620.001.0001/acrefore-9780190228620-e-42>, last accessed 8 August 2019.
- Leenders, R., 2013: Social Movement Theory and the Onset of the Popular Uprising in Syria. *Arab Studies Quarterly*, 35, 273–289.
- Lilleør, H. B. and K. Van den Broeck, 2011: Economic drivers of migration and climate change in LDCs. *Global Environmental Change*, 21, S70–S81.
- Luhmann, N., 1988: Familiarity, confidence, trust: problems and alternatives. In: D. Gambetta, ed., *Trust: making and breaking cooperative relations*. Oxford: B. Blackwell.
- McAdam, D., 1999: *Political process and the development of black insurgency, 1930–1970*. Chicago: Chicago University Press.
- McAdam, D., J. D. McCarthy, and M. N. Zald, 1996: *Comparative perspectives on social movements. Political opportunities, mobilizing structures, and cultural framings*. Cambridge: Cambridge University Press.
- McAdam, D., S. G. Tarrow, and C. Tilly, 2001: *Dynamics of contention*. Cambridge: Cambridge University Press.
- McNamara, K. E., R. Bronen, N. Fernando, and S. Klepp, 2016: The complex decision-making of climate-induced relocation: adaptation and loss and damage. *Climate Policy*, 18, 111–117.
- Morrissey, J., 2009: Environmental change and forced migration. Workshop on environmental change and forced migration. Refugee Studies Centre, University of Oxford, Oxford.
- Morrissey, J., 2012: Rethinking the “debate on environmental refugees”: from “maximalists and minimalists” to “proponents and critics.” *Journal of Political Ecology*, 19, 36.
- NOAA, 2011: Human-caused climate change a major factor in more frequent Mediterranean Droughts. [http://www.noaaneews.noaa.gov/stories2011/20111027\\_drought.html](http://www.noaaneews.noaa.gov/stories2011/20111027_drought.html), last accessed 8 August 2019.
- Oels, A., 2012: ‘Securitization’ of Climate Change to ‘Climatization’ of the Security Field. *Climate Change*, In: J. Scheffran, M. Brzoska, H. G. Brauch, P. M. Link, and J. Schilling, eds., *Human Security and Violent Conflict. Challenges for Societal Stability*, Heidelberg: Springer, 185–207.
- Özden, C. and M. W. Schiff, 2007: *International migration, economic development and policy*. Palgrave Macmillan and World Bank Publications, Washington, D. C., <https://openknowledge.worldbank.org/bitstream/handle/10986/6766/405230Intlomig101OFFICIALoUSEoONLY1.pdf?sequence=1&isAllowed=y>, last accessed 8 August 2019.
- Polk, W. R., 2013: Understanding Syria: from pre-civil war to post-Assad. How drought, foreign meddling, and long-festering religious tensions created the tragically splintered Syria we know today. *The Atlantic* <http://www.theatlantic.com/international/archive/2013/12/understanding-syriaw-from-pre-civil-war-to-post-assad/281989/>, last accessed 8 August 2019.
- Raleigh, C., 2010: Political Marginalization, Climate Change, and Conflict in African Sahel States. *International Studies Review*, 12, 69–86.

- Raleigh, C., A. Linke, H. Hegre, and J. Karlsen, 2010: Introducing ACLED: An Armed Conflict Location and Event Dataset: Special Data Feature. *Journal of Peace Research*, 47, 651–660.
- Reuveny, R., 2007: Climate change-induced migration and violent conflict. *Political Geography*, 26, 656–673.
- Reuveny, R., 2008: Ecomigration and Violent Conflict: Case Studies and Public Policy Implications. *Human Ecology*, 36, 1–13.
- Rüttinger, L., D. Smith, G. Stang, D. Tänzler, and J. Vivekananda, 2015: A new climate for peace. Taking action on climate and fragility risks. *International Alert*, [https://www.international-alert.org/sites/default/files/NewClimateForPeace\\_FullReport\\_small\\_o.pdf](https://www.international-alert.org/sites/default/files/NewClimateForPeace_FullReport_small_o.pdf), last accessed 8 August 2019.
- Scheffran, J., M. Brzoska, J. Kominek, P. M. Link, and J. Schilling, 2012: Disentangling the Climate-conflict Nexus: Empirical and Theoretical Assessment of Vulnerabilities and Pathways. *Review of European Studies* 4, 1–13.
- Selby, J., 2018: Climate change and the Syrian civil war, Part II: The Jazira's agrarian crisis. *Geoforum* 101, 260–274.
- Selby, J., O. S. Dahi, C. Fröhlich, and M. Hulme, 2017: Climate change and the Syrian civil war revisited. *Political Geography*, 60, 232–244.
- State Planning Commission, 2005: The 10th five year plan 2006–2010. Towards a social market economy (in Arabic). Damascus: Government of Syria.
- Suhrke, A., 1994: Environmental degradation and population flows. *Journal of International Affairs* 47, 473–496.
- Tajfel, H. and J. C. Turner, 1986: The social identity theory of intergroup behavior. In: W. G. Austin and S. Worchel, eds., *Psychology of intergroup relations*, The Nelson-Hall series in psychology. Chicago: Nelson-Hall Publishers, 7–24.
- Tarrow, S. G., 2011: *Power in movement: social movements and contentious politics*. Rev. and updated 3rd ed. Cambridge: Cambridge University Press.
- Tilly, C. and S. G. Tarrow, 2012: *Contentious politics: with a brief preface update on the Arab Spring, the Occupy movement, and connections to contentious politics over time*. New York: Oxford University Press.
- Urdal, H., 2006: A Clash of Generations? Youth Bulges and Political Violence. *International Studies Quarterly*, 50, 607–629.
- Werrell, C., F. Femia and A. M. Slaughter, 2013: The Arab Spring and Climate Change. <http://www.americanprogress.org/issues/security/report/2013/02/28/54579/the-arab-spring-and-climate-change/> last accessed 8 August 2019.
- Werrell, C., F. Femia and T. Sternberg, 2015: Did we see it coming?: State fragility, climate vulnerability, and the uprisings in Syria and Egypt. *SAIS Review of International Affairs*, 35, 29–46.
- White House, 2015: Remarks by the President at the United States Coast Guard Academy Commencement. United States Coast Guard Academy, New London, <https://www.whitehouse.gov/the-press-office/2015/05/20/remarks-president-united-states-coast-guard-academy-commencement>, last accessed 8 August 2019.
- Worth, R. F., 2010: Earth Is Parched Where Syrian Farms Thrived. *The New York Times*. <https://www.nytimes.com/2010/10/14/world/middleeast/14syria.html>, last accessed 8 August 2019.