



## WORKING GROUP 1

### ANALYSIS OF SYRIA: LESSONS LEARNED

*This Working Group explored the links between climate change, natural resource mismanagement and state fragility, looking specifically at Syria and the Euphrates Basin. The Working Group explored how, in a time of multiple competing security priorities, the region and the international community can better prepare for and mitigate climate risks by integrating climate impacts and natural resource constraints into their national security and foreign policy priorities.*

**Moderator:** Caitlin Werrell, Center for Climate and Security  
**Speakers:** Francesco Femia, Center for Climate and Security  
Rami Nakhla, Yale University  
Colin Kelley, University of California  
Marcus King, George Washington University  
**Rapporteur:** Nasser Yassin, American University of Beirut  
**Infographics:** Philippe Rekacewicz, Visionscarto.net

#### 1. CHALLENGES<sup>1</sup>

While we should not overstate the role of climate change in specific and complex human events, such as the current refugee crisis, it is equally unhelpful to underestimate the comprehensive scale of climate risks in the region, which impinge on a broad range of environmental, social, political and economic drivers of state fragility (see, for example, the G7-commissioned report “A New Climate for Peace”).<sup>2</sup> Indeed, climate change risks may already be playing a destabilising role in the Middle East and North Africa, by straining critical water and food resources.

| 59 |

As we highlighted in 2012,<sup>3</sup> a combination of extreme drought, natural resource mismanagement and population dynamics helped set the conditions for a fragile Syrian state. From 2007-2010, the country experienced the worst drought in its history of records. This drought was part of a trend of declining winter precipitation in the region – a trend linked to climate change (Hoerling et al, 2011).<sup>4</sup> According to a recent study published in the Proceedings of the National Academy of Sciences, climate change made this drought two to three times more likely to occur (Kelley et al, 2015).<sup>5</sup>

<sup>1</sup> This section is extracted from Werrell C and Femia F, ‘On Syrian Refugees and Climate Change: The Risks of Oversimplifying and Underestimating the Connection’ (10 September 2015) (hereinafter Werrell and Femia 2015) <http://climateandsecurity.org/2015/09/10/on-syrian-refugees-and-climate-change-the-risks-of-oversimplifying-underestimating-the-connection/>; Additional information can be found in King MD, *Climate Change, Water Scarcity and Violent Extremism in Iraq and Syria* (Conference Paper presented at World Water Week, Stockholm, Sweden 24 August 2015)

<sup>2</sup> A New Climate for Peace, ‘Report: A New Climate for Peace: Taking Action on Climate and Fragility Risks’ <https://www.newclimateforpeace.org/>

<sup>3</sup> Femia F and Werrell C, *Syria: Climate Change, Drought and Social Unrest* (Briefer 29 February 2012) (hereinafter Femia and Werrell Syria 2012) [https://climateandsecurity.files.wordpress.com/2012/04/syria-climate-change-drought-and-social-unrest\\_briefer-11.pdf](https://climateandsecurity.files.wordpress.com/2012/04/syria-climate-change-drought-and-social-unrest_briefer-11.pdf)

<sup>4</sup> National Oceanic and Atmospheric Administration (NOAA), ‘NOAA study: Human-caused climate change a major factor in more frequent Mediterranean droughts’ [http://www.noaanews.noaa.gov/stories2011/2011027\\_drought.html](http://www.noaanews.noaa.gov/stories2011/2011027_drought.html)

<sup>5</sup> Kelley CP et al, *Climate change in the Fertile Crescent and implications of the recent Syrian drought* (Abstract) <http://www.pnas.org/content/112/11/3241.abstract>

Combined with water, food and land mismanagement by the al-Assad regime, which subsidised water-intensive agriculture, this drought contributed to the devastation of a significant percentage of Syria's crop and rangeland,<sup>6</sup> and the displacement of 2 million farmers and herders, many of whom fled to urban centres. This massive internal displacement went largely unnoticed by the international community, and the underlying food and water crisis was not adequately captured in popular fragility indices.<sup>7</sup> Indeed, in early 2011, Syria was still broadly believed to be immune to the instability<sup>8</sup> that other "Arab Spring" countries were experiencing. While it is not clear precisely how this significant internal displacement of peoples contributed to the revolutionary movement, it is clear that Syria was already a fragile place, and that climatic stresses were a factor in that fragility.

## 2. RESPONSES

The complexity of predicting, responding and preparing for climate and state fragility involves an array of agencies, both government and non-governmental too great in number to compile into a single list. Two valuable sources for further information are the following:

The **Climate Security 101 - Resource Hub**<sup>9</sup> includes resources on the nexus of climate change and security. These include materials from the U.S. government as well as other governments and regional institutions, international institutions, and other academic, think tank and NGO sources plus links to other on-line collections.

**Water and Conflict**<sup>10</sup> - Oregon State, Transboundary Water Dispute Database: The Transboundary Freshwater Dispute Database (TFDD) is a database intended for use in aiding the process of water conflict prevention and resolution. This database, a project of the Oregon State University College of Earth, Ocean, and Atmospheric Sciences, was developed in collaboration with the Northwest Alliance for Computational Science and Engineering.

## 3. FURTHER READING

- The Center for Climate and Security provides a "One-stop list of resources on Syria, drought, climate change and unrest": <http://climateandsecurity.org/2014/01/23/updated-one-stop-list-of-resources-on-syria-drought-climate-change-and-unrest/>
- Water Conflict: In an ongoing effort to understand the connections between water resources, water systems, and international security and conflict, the Pacific Institute initiated a project in the late 1980s to track and categorise events related to water and conflict, which has been continuously updated since. A new interactive format, introduced in 2009, presents the information three ways, to better illustrate how conflicts over water impact history (Table, Timeline and Map): <http://worldwater.org/water-conflict/>

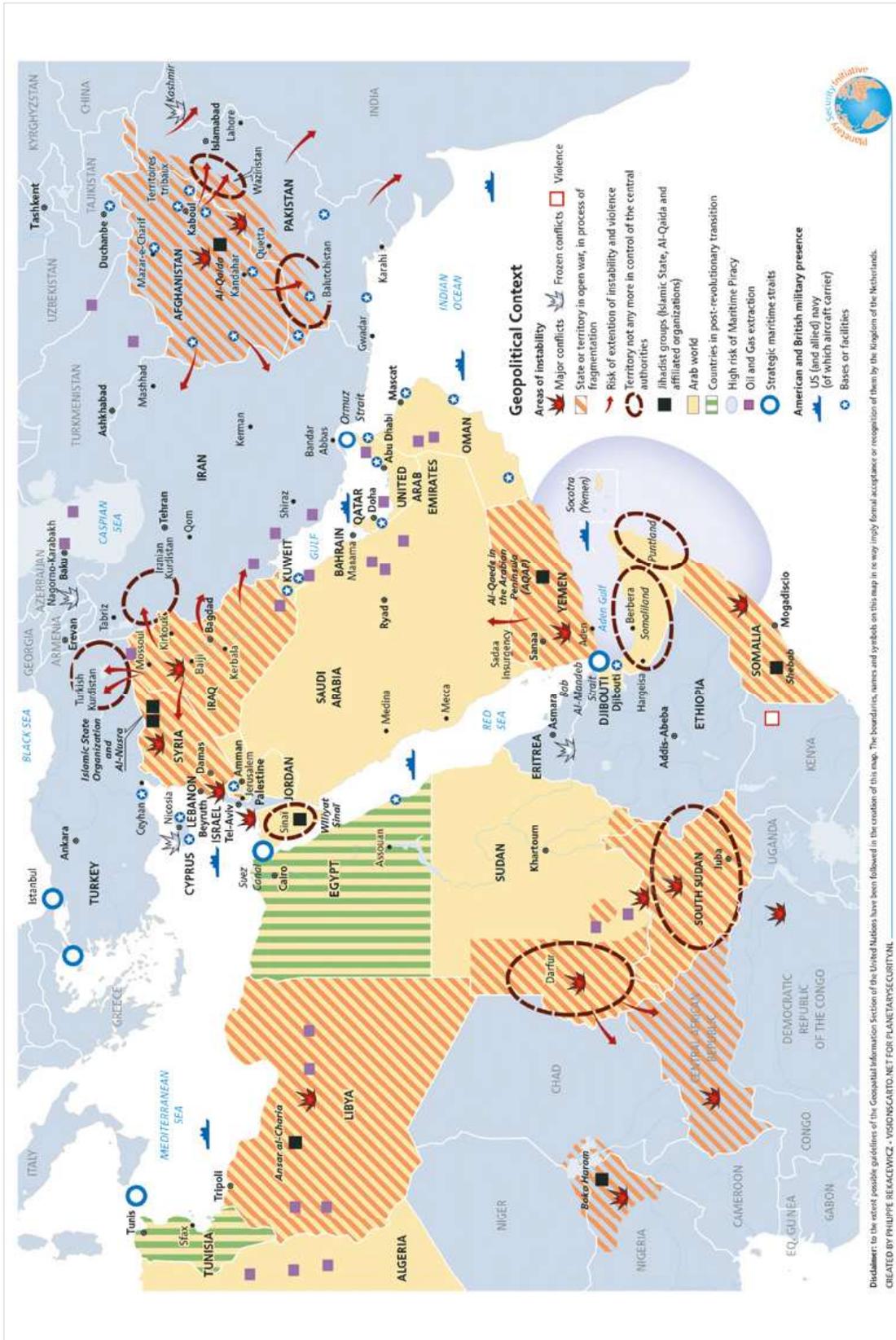
<sup>6</sup> Femia and Werrell Syria 2012

<sup>7</sup> Werrell C, Femia F and Sternberg T, *Did We See It Coming?: State Fragility, Climate Vulnerability, and the Uprisings in Syria and Egypt* (Abstract) (2015) [https://muse.jhu.edu/login?auth=0&type=summary&url=/journals/sais\\_review/v035/35.1.werrell.html](https://muse.jhu.edu/login?auth=0&type=summary&url=/journals/sais_review/v035/35.1.werrell.html)

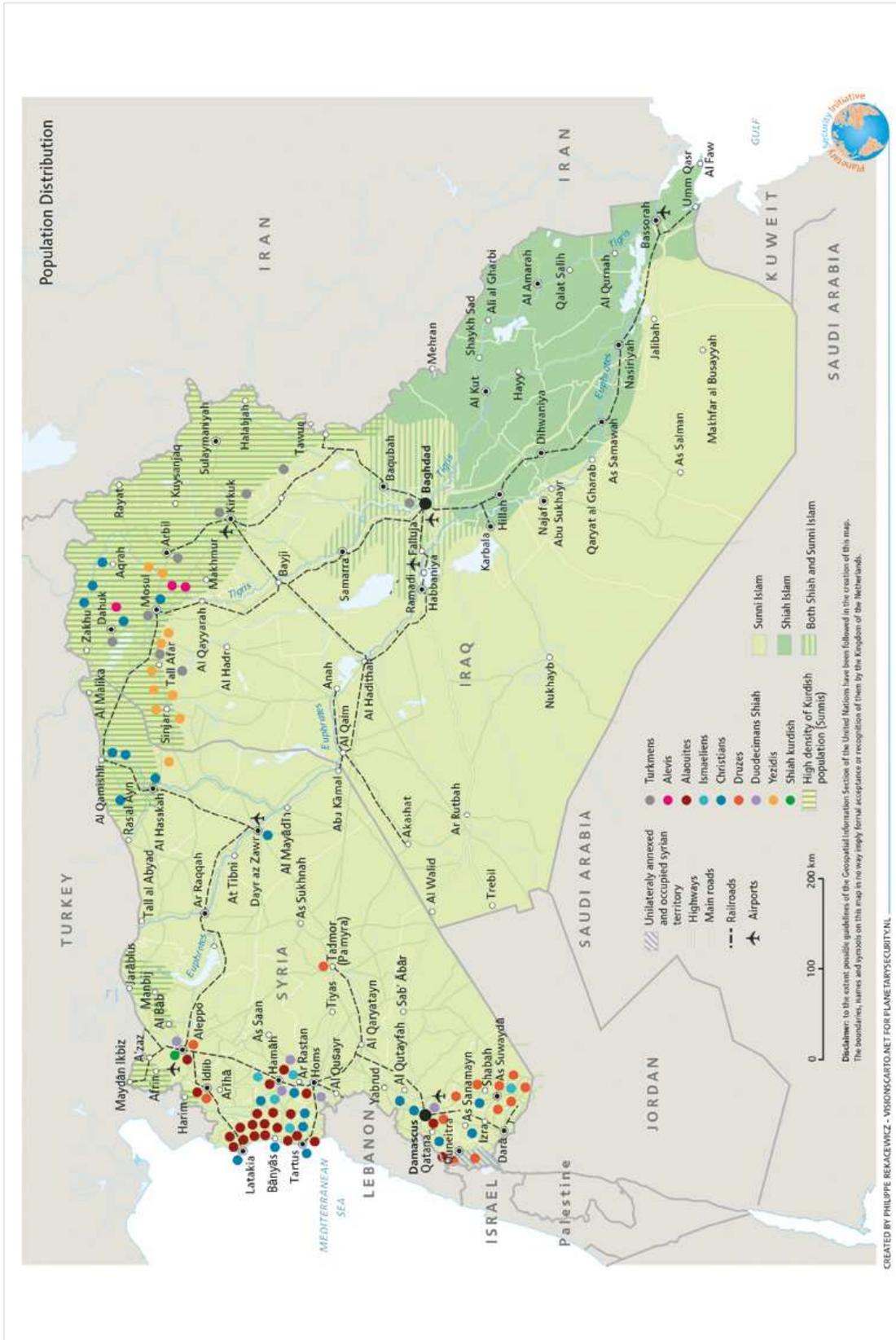
<sup>8</sup> Al-Tamimi AJ and Svadkovsky O, 'Demography is Destiny in Syria: The "peripheralism" and Malthusian underpinnings of an unexpected uprising' <http://spectator.org/articles/36118/demography-destiny-syria>

<sup>9</sup> Climate Security 101, 'Resource Hub' <http://climatesecurity101.org/climate-security-resource-hub/>

<sup>10</sup> Oregon State University, 'The Transboundary Freshwater Dispute Database' (TFDD) <http://www.transboundarywaters.orst.edu/database/>

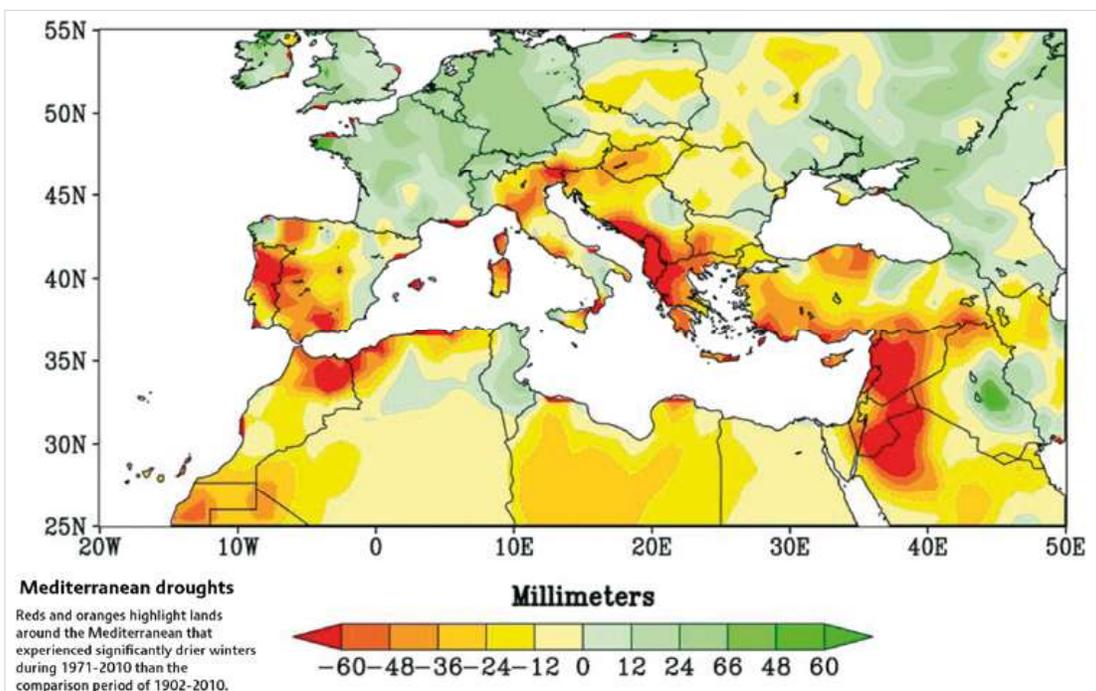
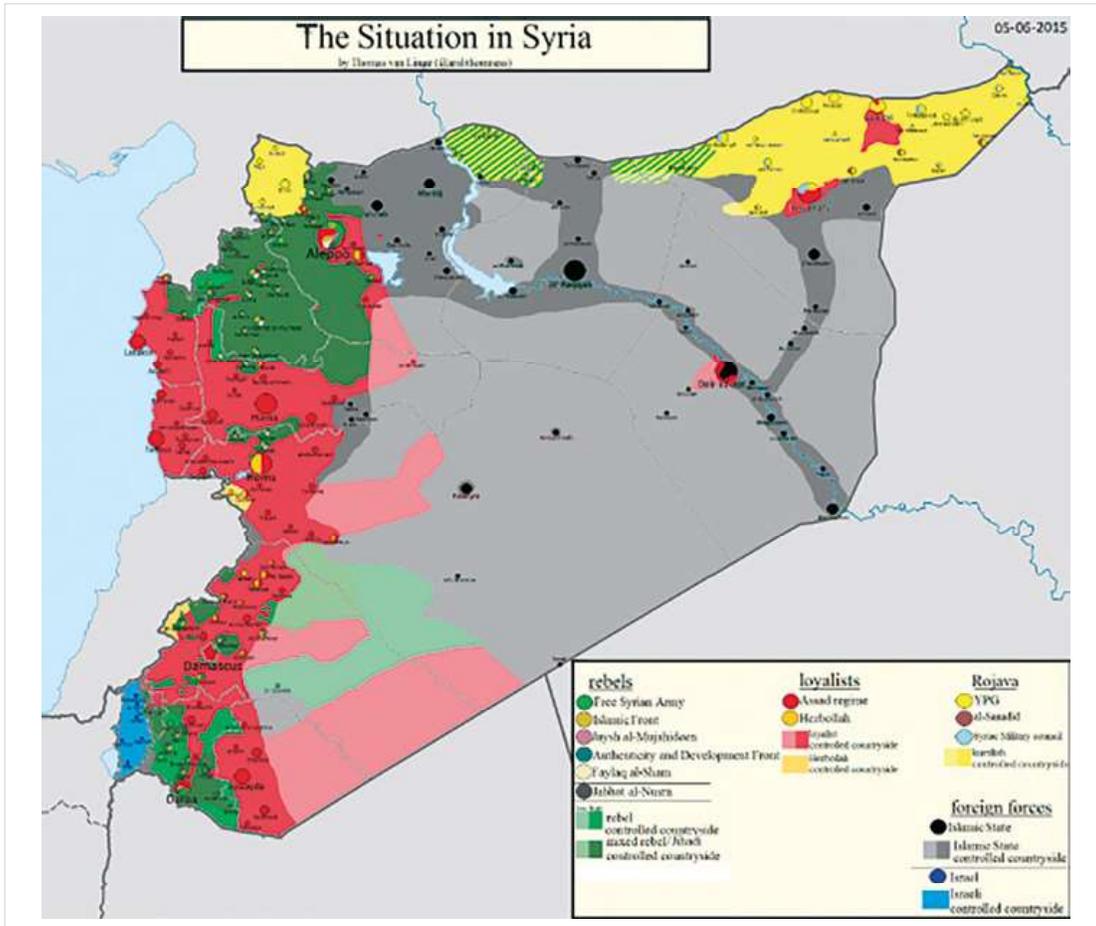


Disclaimer: to the extent possible guidelines of the Geospatial Information Section of the United Nations have been followed in the creation of this map. The boundaries, names and symbols on this map in no way imply formal acceptance or recognition of them by the Kingdom of the Netherlands.  
 CREATED BY PHILIPPE BEKACIWCZ - VSONSCARTO.NET FOR PLANETARYSECURITY.NL





| 64 |



#### 4. ANALYSIS

The war in Syria is calamitous by all means. More than 300,000 have been killed since the Assad regime militarily clamped down the popular protests that erupted in 2011. The war resulted in the largest population displacement since World War II estimated at 11 million people. The causes of war in Syria are multifaceted, as most civil wars. The environmental factor, however, is not to be discounted.

The case of Syria clearly demonstrates how climate change when coupled with other political, economic and demographic stresses can be a major factor of state and societal fragility. Mismanagement of water resources and their unsustainable use by Syrian authorities exacerbated the hitherto delicate natural resources system in large parts of Syria's eastern provinces. This leads to the forced displacement of tens of thousands of farmers and herders from these provinces to main urban centres in Syria and neighbouring Lebanon.

The current projections and recent modelling predict a further decline in precipitation causing additional natural resource stress in Syria and in the Euphrates Basin as well as in neighbouring Lebanon and Jordan. Further environmental stresses will be caused by an increased demand for water. Water and food insecurity in the region, driven by the unsustainability of local food and cash crop production, a lack of resilience to global food price fluctuations, and climate factors, is already acute. Furthermore, the current crisis has shown how water as well as access to food can be broadly used as a weapon or as a way of leverage and control, by non-state actors. The attempt of ISIS to control water resources in the Euphrates Basin is a case in point.



*Caitlin Werrell and Francesco Femia*

## 5. CONCLUSIONS AND RECOMMENDATIONS

There is need for better analysis and predictive tools to further integrate climate and natural resource stresses into our measurements of state fragility. The existing tools are out-dated and to a large extent do not take in consideration the complexity of the 21<sup>st</sup> century (Werrell and Femia, 2015).<sup>11</sup> Revisiting such analytical and predictive tools is of vital importance since certain indicators of state fragility missed the brewing crisis in Syria in 2010 and 2011 although evidence of the impact of draught was produced and made available (cf. Erian et al, 2012).<sup>12</sup> Furthermore, predictive tools would require field research and first hand data to produce grounded evidence.

Following on the above, it is necessary to get the right information to the right people. In most cases, data on severe climate and natural resource vulnerabilities exists, but is simply not reaching high levels of government (e.g. foreign affairs and defence ministries) due to issue competition and established cultures. More needs to be done to elevate climate and natural resources issues within these establishments, through translating this information in the right way, and through the right forums.

The outflow of Syrian refugees to neighbouring countries has created significant impact on host communities. The demographic implications are clear: Jordan and Lebanon alone are hosting between 2.5 to 3 million refugees stressing the already scarce natural resources. Competition over resources cannot be overlooked especially that the crisis in Syria is getting protracted and no clear solution for refugee return is in the horizon.

Though it is difficult-to-impossible to predict the future course of conflict in the region, we have relatively strong projections on what the future climate and water picture of the region could be. We must therefore commit climate adaptation resources in a way that addresses some of the underlying drivers of instability in the region, is conflict sensitive, and can be utilised to build cooperation between conflicting parties.

<sup>11</sup> Werrell C and Femia F, 'Fragile States: The Nexus of Climate Change, State Fragility and Migration' (24 November 2015) <http://anglejournal.com/article/2015-11-fragile-states-the-nexus-of-climate-change-state-fragility-and-migration/>

<sup>12</sup> Erian W (ed) et al, *Agriculture Drought in Africa Mediterranean and Middle East* (2012), <http://www.preventionweb.net/english/hyogo/gar/2013/en/bgdocs/Erian%20et.al,%202012.pdf>

# **ANALYSIS OF SYRIA: LESSONS LEARNED**

## Working Group 1

Rapporteur: **Nasser Yassin**, American University of Beirut

Extract (pp 59-66) from:

## **Planetary Security: Peace and Cooperation in Times of Climate Change and Global Environmental Challenges**

**2 and 3 November 2015**  
**Peace Palace, The Hague**

### **Conference Report**

Editors: Shirleen Chin and Ronald A. Kingham, Institute for Environmental Security

Published by the Ministry of Foreign Affairs of the Kingdom of the  
Netherlands P.O. Box 20061 | 2500 EB The Hague | The Netherlands  
January 2016 | 90147

Infographics: Philippe Rekacewicz, Visionscarto.net

Conference Photos: Copyright by Maurits van Hout

Cover Photo: Al-Sharq Al-Aswat© (2009)

Except for any material protected by copyright, reproduction and dissemination of material in this publication for education and other non-commercial purposes are authorised without any prior written permission from the publisher provided the editors and publisher are fully acknowledged. Reproduction for resale or other commercial purposes is prohibited without written permission of the publisher.

The opinions expressed in this report are those of the authors, moderators, speakers and any persons and organisations cited. They do not necessarily reflect the views of the Kingdom of the Netherlands or the organisations with which the authors, moderators, speakers and rapporteurs are associated.

The designations employed and the presentation of material throughout the report do not imply the expression of any opinion whatsoever on the part of the Kingdom of the Netherlands concerning the legal status of any country, territory, city or area, or of its authorities, or concerning its frontiers or boundaries.