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D'Andre Lampkin

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FROM RISING HEAT COMES RISING TENSION IN SYRIA: HOW GLOBAL WARMING STARTED A WAR & THREATENS HOMELAND SECURITY

D'ANDRE LAMPKIN*

ABSTRACT

This Essay investigates the links of climate change as it relates to civil unrest and terrorism in Syria and the ongoing civil war occurring in the region. The goals are to explore how climate change leads to instability in the region and gives rise to the spread of terrorist organizations, and to suggest solutions to lay the foundation for restoring economic, social, and political stability in the region.

AREA OF INTEREST

The area of interest for this Essay is the cause-effect relationship of global warming and the collapse of homeland security in Syria. There is interest in analyzing how global warming leads to the civil war and exploitation by al-Dawla al-Islamiya al-Iraq al-Sham (“DAESH”).

RESEARCH QUESTIONS

What circumstances led up to pro-democracy protest and civil war in Syria?

Did climate change lead to the rise of civil war and spread of DAESH or ISIS in Syria?

I. DISCUSSION

When we look at the reason a country falls into civil war, we often analyze the relationship between people at its government. In the case

* Graduate Student, National University, 2017; B.S. Criminal Justice Administration, National University 2016. The author would like to thank the U.S. law enforcement community for their unwavering commitment to the diverse communities they serve, the intelligence community for their commitment to protecting the U.S. homeland, and the staff of the *William & Mary Environmental Law and Policy Review* for all their hard work.

of Syria, media reports and political analysis suggest that the civil war in Syria started with pro-democracy protest.¹ Syria's conflict gained widespread attention in 2012 as journalists began to report that the protests were violently quelled by the regime of Syrian President Bashar al-Assad.² But recent research suggests the conflict may have started with climate change.³ Prior to the rise of pro-democracy protest, Syria was already three years into the worst drought in the country's history.⁴ This Essay argues that the drought led to desertification and put extreme pressure on Syria's already strained economy. The environmental instability in Syria eventually lead to political instability and paved the way for DAESH to enter the country and exploit the growing problem.

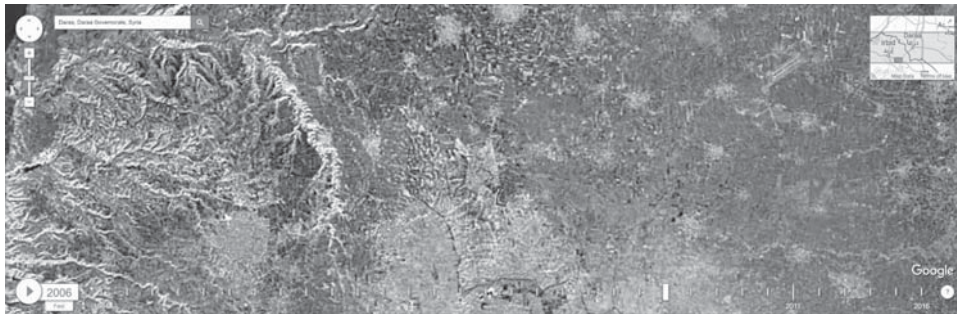


Figure 1. Satellite photo of Daraa, Daraa Governate Syria as it appeared by satellite in 2006. Data source: Google Earth Engine time-lapse: <https://earthengine.google.com/timelapse>

¹ Lucy Rodgers, David Gritten, James Offer & Patrick Asare, *Syria: The Story of the Conflict*, BBC (Mar. 11, 2016), <http://www.bbc.com/news/world-middle-east-26116868> [<https://perma.cc/T4CA-UHY2>].

² Tony Karon, *Five Reasons Why the Assad Regime Survives*, TIME (Aug. 30, 2012), <http://world.time.com/2012/08/30/five-reasons-why-the-assad-regime-survives/> [<https://perma.cc/ZWZ6-Z7MP>].

³ Colin Kelly, Shahrzad Mohtadi, Mark A. Cane, Richard Seager & Yochanan Kushnir, *Climate Change in the Fertile Crescent and Implications of the Recent Syrian Drought*, 112 PROC. NAT'L ACAD. SCI. U.S. 3241, 3241–46 (2015), <http://www.pnas.org/content/112/11/3241.full.pdf> [<https://perma.cc/YB57-X7PN>].

⁴ Brad Plumer, *Drought Helped Cause Syria's War. Will Climate Change Bring More Like It?*, WASHINGTON POST: WONKBLOG (Sept. 10, 2013), https://www.washingtonpost.com/news/wonk/wp/2013/09/10/drought-helped-caused-syrias-war-will-climate-change-bring-more-like-it/?utm_term=.35d4f4c8fb46 [<https://perma.cc/ZGJ7-R8JS>].



Figure 2. Satellite photo of Daraa, Daraa Governate Syria as it appeared by satellite in 2016. Data source: Google Earth Engine time-lapse: <https://earthengine.google.com/timelapse>

In 2013, co-founders of the Center for Climate Change and Security, Francesco Femia and Caitlin Werrell, described the chain of events that preceded the outbreak of revolt that started in Daraa and has now spread across the entire nation.⁵ The researchers explain they first looked at climate changes occurring between 2006 and 2011.⁶ During that time, up to 60% of Syria's farmland experienced the most severe drought in modern history.⁷

The drought in Daraa, however, was not the beginning of Syria's problems. As water sources in Daraa began to dry up in the south of Syria, Bashar al-Asaad's authoritarian regime switched its focus on wheat production in the northeast region of the country.⁸ The government had already been engaged in overambitious agricultural projects.⁹ Femia and Werrell suggest that Bashar al-Assad subsidized water intensive crops like wheat and cotton farming and mismanaged natural water resources.¹⁰ Poor irrigation techniques forced farmers to turn to ground water, which came into the country via the Tigris and Euphrates Rivers.¹¹ One-point-five million people within Syria became displaced as they began to migrate

⁵ *Id.*

⁶ *Id.*

⁷ Caitlin E. Werrell, Francesco Femia & Troy Sternberg, *Did We See It Coming?: State Fragility, Climate Vulnerability, and the Uprisings in Syria and Egypt*, 35-1 SAIS REV. INT'L AFF. 29, 32 (2015).

⁸ *Id.* at 33.

⁹ *Id.*

¹⁰ Plumer, *supra* note 4.

¹¹ Russell Sticklor, *Syria: Beyond the Euphrates*, NEW SECURITY BEAT (Sept. 28, 2010), <https://www.newsecuritybeat.org/2010/09/syria-at-the-crossroads-beyond-the-euphrates/> [<https://perma.cc/M955-98X3>].

into urban areas.¹² According to World Population Review, populations in Syria's urban areas nearly doubled.¹³

Population Estimates:

	2011	2012	2016
Damascus	1.71 million	2.6 million	1.57 million
Aleppo	1.08 million (by 2004 estimates)	3.16 million	1.6 million

Figure 3. Comparison of Syria's most populated urban areas. Data shows population in 2011 prior to mass migration after desertification and population during start of pro-democracy revolt.¹⁴

The study conducted by Center for Climate Change and Security estimates 75% of farmers in Daraa suffered from total crop failure, while farmers in the northeast region lost approximately 80% of their livestock.¹⁵ In another study conducted by the Arab Center for the Studies of Arid Zones and Dry Lands, a part of The League of Arab States, it is estimated that about one million people are food insecure.¹⁶ U.N. officials estimated that two- to three-million people (9–13% of Syrians) were driven into poverty.¹⁷ Simultaneously, Iraqis and Palestinians fleeing from harsh conditions in their countries had already begun migrating into Syria's urban centers, and therefore Syrian farmers who sought new lives in the city were attempting to join an economy that was already strained.¹⁸

¹² Werrell, *supra* note 7, at 33.

¹³ *Syria Population 2017*, WORLD POPULATION REVIEW, <http://worldpopulationreview.com/countries/syria-population/> (last visited Apr. 4, 2017) (scroll down to map and chart entitled "Syria Population Density") [<https://perma.cc/LG4C-VKUQ>].

¹⁴ Information on historical city populations was unavailable.

¹⁵ *NOAA Study: Human-Caused Climate Change a Major Factor in More Frequent Mediterranean Droughts*, NAT'L OCEANIC AND ATMOSPHERIC ADMIN. (Oct. 27, 2011), http://www.noaanews.noaa.gov/stories2011/20111027_drought.html [<https://perma.cc/X7YT-3ZEJ>].

¹⁶ WADID ERIAN, BASSEM KATLAN & OULDBDEY BABAH, ARAB CENTER FOR THE STUDIES OF ARID ZONES AND DRY LANDS, GLOBAL ASSESSMENT REPORT ON DISASTER RISK REDUCTION: DROUGHT VULNERABILITY IN THE ARAB REGION: SPECIAL CASE STUDY: SYRIA 15–16 (2010), http://www.preventionweb.net/english/hyogo/gar/2011/en/bgdocs/Erian_Katlan_&_Babah_2010.pdf [<https://perma.cc/3HB8-QDH6>].

¹⁷ *Drought Pushing Millions into Poverty*, IRIN (Sept. 9, 2010), <http://www.irinnews.org/report/90442/syria-drought-pushing-millions-poverty> [<https://perma.cc/WD63-7NLH>].

¹⁸ Jack Goldstone, *Syria, Yemen, Libya—One Factor Unites These Failed States, and It*

These conditions led to settlements being created around the city edges, poor living conditions, increased poverty, growing political unrest, and growing unemployment.¹⁹ By January 2011, conditions had worsened to a point where protesters began to demand democratic reforms and the state of the homeland was threatened.²⁰ Farmers who refused to leave their rural hometown of Daraa began protesting and were met with military and police resistance.²¹

The pro-democracy protest, which grew in the cities of Aleppo and Damascus through March 2011, gave rise to an unprecedented challenge to the authority of President Bashar al-Assad and the beginning of the Syrian Civil War.²² Because Syria is an Arab-majority country, the period of protest was internationally publicized by social media and mainstream media outlets as being a part of the “Arab Spring” or “Democracy Spring.”²³ The protest gained worldwide attention as journalists and content creators, using social media like Twitter and Facebook, began to report that Bashar al-Assad’s government was shooting down peaceful demonstrators.²⁴ In July 2011, protesters acquired their own weapons and began to shoot back.²⁵ Syrian troops and protest sympathizers began to defect from al-Assad’s army.²⁶ The situation evolved from a civil uprising to an armed

Isn't Religion, REUTERS (Nov. 30, 2015), <http://www.reuters.com/article/goldstone-climate-idUSL1N13P2HJ20151130> [<https://perma.cc/8F7W-EE5M>].

¹⁹ William R. Polk, *Understanding Syria: From Pre-Civil War to Post-Assad*, THE ATLANTIC (Dec. 10, 2013), <https://www.theatlantic.com/international/archive/2013/12/understanding-syria-from-pre-civil-war-to-post-assad/281989/> [<https://perma.cc/N68X-RAVL>]; see also Plumer, *supra* note 4.

²⁰ Paul Iddon, *A Recap of the Syrian Crisis to Date*, DIGITAL JOURNAL (July 30, 2012), <http://www.digitaljournal.com/article/329590> [<https://perma.cc/Z6HC-QPLU>].

²¹ Hugh Macleod, *Syria: How It All Began*, PUB. RADIO INT’L. (Apr. 25, 2011), <https://www.pri.org/stories/2011-04-23/syria-how-it-all-began> [<https://perma.cc/P4YL-SB3D>]; *Syria Unrest: Pro-Assad Rallies in Damascus and Aleppo*, BBC (Mar. 29, 2011), <http://www.bbc.com/news/world-middle-east-12892870> [<https://perma.cc/GS2S-VNMU>].

²² Lina Sinjab, *Syria Conflict: From Peaceful Protest to Civil War*, BBC (Mar. 15, 2013), <http://www.bbc.com/news/world-middle-east-21797661> [<https://perma.cc/7F3E-9E6R>].

²³ Marc Lynch, Deen Freelon & Sean Aday, *Syria in the Arab Spring: The Integration of Syria’s Conflict with the Arab Uprisings, 2011–2013*, RESEARCH & POLITICS *passim* (2014), <http://journals.sagepub.com/doi/pdf/10.1177/2053168014549091> [<https://perma.cc/GCY2-YL BG>].

²⁴ See *id.*; Teresa Salvadoretti, *The Role of Social Media in the Syrian Crisis*, AS FAR (2015), <http://www.asfar.org.uk/the-role-of-social-media-in-the-syrian-crisis/> (last visited Apr. 4, 2017) [<https://perma.cc/L4GW-53EJ>].

²⁵ See Joseph Holliday, THE STRUGGLE FOR SYRIA IN 2011, INST. STUDY OF WAR 13, 21–22 (2011), http://www.understandingwar.org/sites/default/files/Struggle_For_Syria.pdf [<https://perma.cc/3XJC-YB4R>].

²⁶ *Id.* at 16, 21.

rebellion, and eventually a civil war.²⁷ A platform for militant opposition was formed, and on June 29th the Free Syrian Army was created.²⁸

Shortly after the armed rebellion and formation of the Free Syrian Army, Muslim extremists throughout the region began to enter the conflict.²⁹ Iran, Syria's closest ally, began to intervene by sending troops into the region.³⁰ Lebanese Hezbollah fighters backed by Iran and members of DAESH entered the war; each having their own agenda.³¹ Simultaneously, Bashar al-Assad released jihadist prisoners (Amr 'Abu Atheer' al-Absi, Hassan Abboud, Zahran Alloush, and Abu Khaled al-Suri) to indirectly quell protesters using extremist tactics.³² These groups created a new front for the Free Syrian Army.³³ Saudi Arabia and the Persian Gulf states sent weapons and money to counter Iran's influence.³⁴ The government of Jordan facilitated the transfer of weapons to rebel forces³⁵ and the Middle East became a region divided between Sunni national leaders supporting the rebels and Shiite national leaders who support

²⁷ Arwa Damon & Tim Lister, *In Syria, Protests Mutate to Armed Resistance amid Economic Meltdown*, CNN (Oct. 19, 2011, 3:15 PM), <http://www.cnn.com/2011/10/19/world/meast/syria-armed-resistance/> [<https://perma.cc/43V6-225R>].

²⁸ *Syrian Colonel Claims Big Defection*, NEWS24 (July 30, 2011, 6:58 PM), <http://www.news24.com/World/News/Syrian-colonel-claims-big-defection-20110730> [<https://perma.cc/6RPJ-7DRA>].

²⁹ Ben Hubbard, *Militant Video Claims Deadly Syria Bombings*, INDEPENDENT (May 12, 2012, 9:21 AM), <http://www.independent.co.uk/news/world/middle-east/militant-video-claims-deadly-syria-bombings-7742006.html> [<https://perma.cc/2J2H-WZKQ>].

³⁰ WILL FULTON, JOSEPH HOLLIDAY & SAM WYER, AM. ENTERPRISE INST & INST. STUDY WAR, *IRANIAN STRATEGY IN SYRIA passim* (2013), <http://www.understandingwar.org/sites/default/files/IranianStrategyinSyria-1MAY.pdf> [<https://perma.cc/B5H9-QHPA>].

³¹ MARISA SULLIVAN, INST. STUDY WAR, *HEZBOLLAH IN SYRIA, passim* (2014), http://www.understandingwar.org/sites/default/files/Hezbollah_Sullivan_FINAL.pdf [<https://perma.cc/F8UE-GM78>]; *Syria Iraq: The Islamic State Militant Group*, BBC (Aug. 2, 2014), <http://www.bbc.com/news/world-middle-east-24179084> [<https://perma.cc/TP3Y-JW8Y>].

³² Phil Sands, Justin Vela & Suha Maayeh, *Assad Regime Set Free Extremists from Prison to Fire Up Trouble During Peaceful Uprising*, THE NATIONAL (Jan. 22, 2014, 1:05 PM), <http://www.thenational.ae/world/syria/assad-regime-set-free-extremists-from-prison-to-fire-up-trouble-during-peaceful-uprising#full> [<https://perma.cc/3XZP-F4EH>].

³³ *Id.*

³⁴ HUSSEIN IBISH, ARAB GULF STATES INST. WASH., *WHAT'S AT STAKE FOR THE GULF ARAB STATES IN SYRIA?* 2 (2016), http://www.agsiw.org/wp-content/uploads/2016/06/Ibish_GCC_Syria_Web.pdf [<https://perma.cc/3GQA-NW9A>].

³⁵ Ian Grant, *Jordan's Role in Syria Border-Crossings of Islamist Rebels, Saudi and Qatari Weapons Transfers*, GLOBAL RESEARCH (Dec. 19, 2015), <http://www.globalresearch.ca/jordans-role-in-syria-border-crossings-of-islamist-rebels-saudi-and-qatari-weapons-transfers/5496866> [<https://perma.cc/GD4D-Y599>]; Ali Younes & Mark Mazzetti, *Weapons for Syrian Rebels Sold on Jordan's Black Market*, AL JAZEERA (June 26, 2016), <http://www.aljazeera.com/news/2016/06/cia-weapons-syrian-rebels-jordan-black-market-160626141335170.html> [<https://perma.cc/AE2G-YMP8>].

Bashar al-Assad.³⁶ In April 2013, United States President Barack Obama authorized the Central Intelligence Agency to train and equip Syrian rebels³⁷ and made requests to the Gulf states to stop funding extremists.³⁸ During the same period, DAESH leader Abu Bakr al-Baghdadi sent rebels into the region and announced control over all joint Al-Qaeda forces in Iraq and Syria, and DAESH was formed.³⁹ By August 2013, reports confirmed Bashar al-Assad used chemical weapons against the civilian population and anti-Assad forces.⁴⁰

Beginning in February 2014, DAESH was fighting Syrian rebels and Syrian Kurdish forces in the North (known as Rojava).⁴¹ By June, DAESH built an army in Syria large enough to occupy a large part of the country.⁴² Once known as ISI (Islamic State of Iraq), DAESH changed its name to ISIS or Islamic State of Iraq and Syria.⁴³ In September 2015, the Russian government intervened on behalf of President Bashar al-Assad, but Russian forces only bombed anti-Assad forces⁴⁴—not DAESH—while the United States focused on training rebel groups to fight DAESH.⁴⁵

³⁶ Tim Arango, Anne Barnard & Duraid Adnan, *As Syrians Fight, Sectarian Strife Infects Mideast*, N.Y. TIMES (June 1, 2013), <http://www.nytimes.com/2013/06/02/world/middleeast/sunni-shiite-violence-flares-in-mideast-in-wake-of-syria-war.html> [<https://perma.cc/DV8G-7DRT>].

³⁷ Adam Entous, Julian E. Barnes & Siobhan Gorman, *U.S. Begins Shipping Arms for Syrian Rebels*, WALL ST. JOURN. (June 26, 2013, 7:26 PM), <https://www.wsj.com/articles/SB10001424127887323419604578569830070537040> [<https://perma.cc/XKR7-E7BB>].

³⁸ Press Release, White House, Remarks by President Obama in Address to the United Nations General Assembly (Sept. 24, 2014), <https://obamawhitehouse.archives.gov/the-press-office/2014/09/24/remarks-president-obama-address-united-nations-general-assembly> [<https://perma.cc/CG5C-THTX>].

³⁹ Cameron Glenn, *Timeline: Rise and Spread of the Islamic State*, WILSON CENTER (July 5, 2016), <https://www.wilsoncenter.org/article/timeline-rise-and-spread-the-islamic-state> [<https://perma.cc/9ZP5-7L3V>].

⁴⁰ Joby Warrick, *More Than 1,400 Killed in Syrian Chemical Weapons Attack, U.S. Says*, WASHINGTON POST (Aug. 30, 2013), https://www.washingtonpost.com/world/national-security/nearly-1500-killed-in-syrian-chemical-weapons-attack-us-says/2013/08/30/b2864662-1196-11e3-85b6-d27422650fd5_story.html [<https://perma.cc/FR6F-TBJQ>].

⁴¹ Nalan Sipar, *Kurds Struggle to Unify Against ISIS*, DEUTSCHE WELLE (July 18, 2014), <http://www.dw.com/en/kurds-struggle-to-unify-against-isis/a-17793900> [<https://perma.cc/CVG5-82R5>].

⁴² *ISIS in Control of '35 Percent' of Syrian Territory*, AL ARABIYA (July 19, 2014), <http://english.alarabiya.net/en/News/middle-east/2014/07/19/270-Syrian-fighters-killed-in-big-gest-ISIS-operation-.html> [<https://perma.cc/L8ZR-EBJU>].

⁴³ Glenn, *supra* note 39.

⁴⁴ *Syria Crisis: Russian Air Strikes Against Assad Enemies*, BBC (Sept. 30, 2015), <http://www.bbc.com/news/world-middle-east-34399164> [<https://perma.cc/L8ZR-EBJU>].

⁴⁵ Michael D. Shear, Helene Cooper & Eric Shmitt, *Obama Administration Ends Effort to Train Syrians to Combat ISIS*, N.Y. TIMES (Oct. 9, 2015), <https://www.nytimes.com>

Meanwhile DAESH focused on attacking the Free Syrian Army and establishing a caliphate state within the borders of Syria and Iraq.⁴⁶

II. POTENTIAL SOLUTIONS

Today, Western leaders participating in Syria's proxy war agree that the only way to resolve the conflict in Syria is to remove the current president, Bashar al-Assad, from power.⁴⁷ Public justification for his removal has been limited to his use of chemical weapons against the civilian population.⁴⁸ However, perhaps a more undisputable justification for the removal of al-Assad is a resolution of an underlying problem: poor resource management and economic corruption that crippled the future of the nation's homeland security.⁴⁹ Without desertification, the conflict may not have reached the complexity we see today. Also, Eastern and Western powers could admit they played a role in the climate change and continue reconciliation by pushing for a more environmentally intuitive leader in Syria. Hopefully, the admission and humble approach will be the beginning of the region's recovery.

Resolving the complex multilevel and multination war in Syria will need a different approach. But once new leadership is in place, there could be greater focus on stabilizing the economic conditions of the country. Perhaps one solution is to negotiate a settlement agreement between Turkey and Syria to end the violence and address the basic needs of the Syrian and Turkish people. Such a resolution could open the doors for negotiations to share water resources, like opening the dams so that the Syrian people can begin farming again near the Euphrates and Tigris Rivers.

Syria should also explore diversifying their economy and reducing the significance of their agriculture sector, along with passing legislation for stricter enforcement of laws governing water resources. Because of Syria's position in the Middle East, they could negotiate trade agreements where they provide energy produced by solar resources to neighboring

/2015/10/10/world/middleeast/pentagon-program-islamic-state-syria.html [https://perma.cc/366P-TP88].

⁴⁶ See Glenn, *supra* note 39.

⁴⁷ See Ian Black, *Syria Crisis: Where Do the Major Countries Stand?*, THE GUARDIAN (Sept. 29, 2015, 4:52 AM), <https://www.theguardian.com/world/2015/sep/29/syria-crisis-where-do-the-major-countries-stand> [https://perma.cc/YTV3-8HZU].

⁴⁸ See Taylor Claudsen, *Why Bashar-Al-Assad Remains in Power*, 9 GLOBAL TIDES Art. 8 at 8 (2015), <http://digitalcommons.pepperdine.edu/globaltides/vol9/iss1/8> [https://perma.cc/4VNT-ZXJT].

⁴⁹ See Plumer, *supra* note 4.

countries. This could re-establish Syria as a key player in ensuring economic stability and energy independence in the region.

CONCLUSION

On November 6, 2016, the United States Secretary of State John Kerry addressed nation leaders and diplomats at the Conference of the Parties in Marrakech, Morocco.⁵⁰ In his address, he noted global climate change has had a negative effect on national security.⁵¹ According to Secretary Kerry, military leaders within the Pentagon called climate change a “threat multiplier.”⁵² It “exacerbates conflicts all over the world and [is] view[ed]. . . as a threat to military readiness at [the] bases.”⁵³ The conditions of climate change have significantly altered countries that once possessed sustainable agricultural markets.⁵⁴ In the case of Syria, climate change also laid the foundation for terrorist groups like DAESH to expand.

In a September 2016 memorandum published by the United States Office of the Director of National Intelligence, titled “Implications for US National Security of Anticipated Climate Change,” the authors illustrate how climate change influenced terrorist activity in Somalia and Mali.⁵⁵ Between the years 2011 and 2013, the terrorist group Al-Shabaab in Somalia coerced and taxed international aid agencies working for famine relief.⁵⁶ Food was also withheld from those deemed to be uncooperative.⁵⁷ In 2015, insurgent groups in Mali, like Tuareg-led separatists and the rebel Movement for the National Liberation of Azawad (“MNLA”), engaged in a “food for jihad” arrangement where they exploited people leaving farmlands and agriculture due to desertification exacerbated by persistent

⁵⁰ *John Kerry: Full Transcript of COP22 Climate Summit Speech*, CLIMATE HOME (Nov. 16, 2016, 6:04 PM), <http://www.climatechangenews.com/2016/11/16/john-kerry-full-transcript-of-cop22-climate-summit-speech/> [<https://perma.cc/8GHN-FX62>].

⁵¹ *Id.*

⁵² *Id.*

⁵³ *Id.*

⁵⁴ SUSTAINABLE DEV. SOLUTIONS NETWORK, SOLUTIONS FOR SUSTAINABLE AGRICULTURE AND FOOD SYSTEMS viii, 5 (2013), <http://unsdsn.org/wp-content/uploads/2014/02/130919-TG07-Agriculture-Report-WEB.pdf> [<https://perma.cc/L2P7-27DE>].

⁵⁵ OFF. DIR. NAT’L INTELLIGENCE, IMPLICATIONS FOR US NATIONAL SECURITY OF ANTICIPATED CLIMATE CHANGE 1–13 (2016), https://www.dni.gov/files/documents/Newsroom/Reports%20and%20Pubs/Implications_for_US_National_Security_of_Anticipated_Climate_Change.pdf [<https://perma.cc/KZ29-4FYB>].

⁵⁶ *Id.* at 9.

⁵⁷ *Id.*; *Somalia: End War Crimes to Help Tackle Famine*, HUMAN RIGHTS WATCH (Aug. 14, 2011, 7:50 PM), <https://www.hrw.org/news/2011/08/14/somalia-end-war-crimes-help-tackle-famine> [<https://perma.cc/LJ37-S9E3>].

drought.⁵⁸ The situation in Somalia and Mali is proof that the potential for climate change to lead to security instability is real and widespread.

Climate change causes increases in the number of hot days, persistent downpour of rain, and changing of weather patterns, all of which place additional burdens on already fragile nations. Cost of food, likelihood of political instability, and risk to human health also increases. Greater effort should be made by national leaders to reduce greenhouse gases and the causes of climate change, not only for the sake of already stricken countries, but for the future of their own homeland security. All countries are vulnerable, and therefore they all have an obligation to come up with solutions for their own and their allies' future.

⁵⁸ Chris Arsenault, *Drought, Expanding Deserts and "Food for Jihad" Drive Mali's Conflict*, REUTERS (Apr. 27, 2015, 8:16 AM), <http://www.reuters.com/article/us-climatechange-mali-conflict-idUSKBN0NI16M20150427> [<https://perma.cc/4QMF-98KD>]; Randy Showstack, *White House: National Security Plans Must Consider Climate Risks*, EOS (Sept. 22, 2016), <https://eos.org/articles/white-house-national-security-plans-must-consider-climate-risks> [<https://perma.cc/PA8P-WXDM>].