In 1980, the libertarian economist Julian Simon made a bet with biologist Paul Ehrlich, who gained significant notoriety after the 1968 publication of his book *The Population Bomb*, warning of the dangers of overpopulation. Simon bet Ehrlich that the price of five metals—chrome, copper, nickel, tin, and tungsten—would decrease by the year 1990.\(^1\) Ehrlich took the bet, confident that the drastic increase in human population over the decade would lead to more demand for these finite materials and would cause the prices to rise. Although the population increased by 800 million in the 1980s, the prices of the five metals in 1990 decreased by about fifty percent since 1980 and Simon won the bet.\(^2\)

Although Simon may have gotten lucky, we should not miss drawing an important lesson from this infamous wager. Competition and human ingenuity have the potential to greatly impact both the supply and demand for all sorts of commodities, be it energy, food, water, or less crucial items. Just as Malthus’ predictions of catastrophe were swept away by the Industrial Revolution and Ehrlich’s prediction of mass starvation in the 1970s and 80s in *The Population Bomb* was disproved by the innovations of Green Revolution,\(^3\) new technologies have the potential to, once again, save

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the world from impending disaster. With food and oil prices on the decline and the rise of the United States as a world leader in energy production, policymakers and news organizations (with some exceptions) seem to have moved beyond the issue of global resource scarcity. However, it is also important to remember that the past is not always predictive of the future, and recent technological advancements may have only delayed disaster. Climate change and political inertia have the potential to stretch humanity’s ability to invent and invest its way out of looming catastrophes. Although the threats posed to human civilization by the steady exhaustion of the world’s finite resources will continue to morph in the decades to come as new technologies emerge and market conditions change, the dangers posed by climate change require policymakers to not lose focus.

The articles in this volume derive from the February 7, 2014 symposium hosted by the Penn State Journal of Law and International Affairs entitled “The Nine Billion People Question: The Challenge of Global Resource Scarcity,” and are intended to warn against this inattention. The title of the symposium was taken from a special report published in The Economist magazine in 2011 and refers to the fact that the world’s population will likely grow from around seven billion to over nine billion people by 2050. The goal of the symposium was to bring scholars, policymakers, and practitioners together to discuss the challenges raised in The Economist’s report and

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4 According to the Food and Agricultural Organization’s Food Price Index, all food except meat has fallen sharply in 2014. The Food Price Index, which is the average of indices of the five staple food groups, has fallen from its high of 229.9 in 2011 to 188.6 in December 2014. FAO Food Price Index, FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, http://www.fao.org/worldfoodsituation/foodpricesindex/en/ (last updated Jan. 8, 2015).


similar articles addressing the potential crises caused by drastic increases in the demand for food, energy, and water.

The *Journal of Law and International Affairs* is a multi-discipline journal, and the essays in this collection fit that mold. The first two essays in this collection address the geopolitics of natural resource scarcity. Professor Kent H. Butts of the Pennsylvania State University and the Center for Naval Analysis provides analysis of the importance placed on gaining and maintaining access to natural resources by nation-states throughout the twentieth and twenty-first centuries. Professor Michael Klare, Professor of Peace and World Security Studies and Director of the Five College Program in Peace and World Security Studies at Hampshire College, builds upon Professor Butts’ analysis in his exciting essay by applying the lessons learned from history to the new geopolitics of energy. Klare, who has long been a leading voice sounding the alarm bells on the impacts of peak oil and resource scarcity, examines the extraordinary and unexpected shift from scarcity to what the CEO of ExxonMobil calls the “new Era of Abundance.” What this new era will bring to energy geopolitics is still largely unknown. Yet, Professor Klare warns that “while there has been some alteration in the global policy landscape, conflict over energy continues to convulse international affairs.”

Professor Bryan McDonald’s essay sets the stage for the next six essays that specifically address the global food system. Professor McDonald, a historian at the Pennsylvania State University, maps the global food system through history and argues that if the societies of the world are to effectively feed themselves in a sustainable way, we must understand how global food networks currently operate and how these networks can and should evolve to address interactive sets of threats and vulnerabilities. Professor Carmen Gonzalez’s contribution adeptly moves from the local to the global levels of food

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insecurity issues and argues “food insecurity is a function of global economic order that systematically disadvantages poor farmers in developing countries.” Professor Gonzalez, who in a Professor of Law at the University of Seattle, proposes six steps affluent countries can take to relieve the misery that the international order inflicts on small farmers throughout the world. These steps range from proactive investment opportunities to reform of the current trade regime so that the benefits and risks of food production can be allocated in a more just way.

The following two articles by a leading scholar and a practitioner address global food and agricultural assistance. Although nominally a humanitarian instrument, food aid remains essentially a political tool used by governments to further geopolitical ends. Professor Erin Lentz of the University of Texas at Austin acknowledges the political role of food aid, but argues that governments now have a real opportunity to reform food assistance to make it fit for its primary purpose—to save lives and build resiliency. Key to this opportunity, Professor Lentz contends, is a greater understanding about the long-term effects of undernutrition in the first 1000 days of life. Marc Cohen, senior researcher at Oxfam America, builds off Professor Lentz’s analysis and addresses the Feed the Future Program of the United States. Dr. Cohen welcomes the new approach to agricultural assistance being employed by the United States, but argues based on field research conducted in Haiti, Senegal, and Tanzania that “more consistent effort to draw on farmers’ own knowledge and definitions of problems in [Feed the Future] programming would improve the initiative’s result.”

The World Trade Organization (WTO) and the international trade system will play a key role in shaping the future of global natural resource management. In their essay, Terrance P. Stewart and Stephanie Manaker Bell, both attorneys working on trade issues for the firm Stewart and Stewart, comprehensively explain how the WTO has addressed food insecurity throughout its history and argue that the “international community must continue to examine how trade rules influence food security issues and how they can be modified to ensure that the evolving needs of the global community are met.”
Professor David Blandford of Penn State provides an economist's view of the current international trade regime, with a specific focus on the Agreement on Agriculture. Professor Blandford contends that although the existing WTO disciplines on agriculture, and proposals to strengthen these, are far from perfect, they are on the right track and warns against loosening these disciplines in the future should new trade conflicts emerge as a result of global resource scarcity.

As the essays in this volume demonstrate, the importance of ensuring that the earth can support nine billion people cannot be overstated. With such threats potentially looming, we cannot sit back and hope that technology will save humanity and the earth once again. Strategies are required, resources must be marshaled, and political will must be mobilized. Our goal in holding the symposium and publishing this edition of the Journal of Law and International Affairs was to educate, challenge, and to some extent, compel readers to take action so that, in an earth crowded with nine billion people, there will be room for us all to pursue healthy and prosperous lives. I hope we have achieved at least one of those goals.
GEOPOLITICS OF RESOURCE SCARCITY

Kent Hughes Butts, PhD*

INTRODUCTION

Geopolitics refers to the relationship of geographical settings to political processes.¹ The diversity and scale of the geography are important variables in the exercise of political power. Resources vary markedly in occurrence, giving rise to global patterns of trade and creating vulnerability to supply cutoff. National leaders should be aware of the occurrence of strategically important resources within their borders, understand which of these are critically important to sustain human and state security, and develop policies to achieve sufficiency from domestic or international sources. This paper addresses resource geopolitics, offers some examples, and provides concepts for reducing import vulnerability in an era of rising resource-focused policies by Russia and China.

I. GEOPOLITICS

One of the functions of statecraft is to secure the resources that sustain the nation state. When strategically important resources are not found within state borders, relationships with resource-producing countries and the security of trade routes take on added

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significance. These relationships are dynamic; often lost on practitioners of statecraft is that economics and technology constantly change and with it, the vulnerability of the state to the decisions made by other states.

The geopolitical focus of statecraft will vary with the geography of states and is not always determined by resource access, yet it played a significant role in the work of important geopolitical writers. Mahan wrote at length about the importance of securing warm water ports.\textsuperscript{2} Kjellen stressed the importance of economics.\textsuperscript{3} Ports were important for trade and were bases for a navy, and economics turned on industrial production. The factor inputs of industrial production included, to no small degree, energy and mineral resources. Thus, geopoliticians such as Ratzel spoke of the strategic importance of autarky and resource access.\textsuperscript{4} Haushofer clearly had resources in mind when he wrote about the German need for Lebensraum in the years leading up to World War II.\textsuperscript{5} These scholars wrote in an era characterized by European wars and the application of Darwin’s survival of the fittest concept to geopolitical theory. States were seen as organisms that were either growing, driven by a dynamic culture and industrial might, or becoming old and weaker. Thus, borders could be seen as shifting zones of assimilation driven by the need for vital resources.

The thinking of state leaders was influenced by these geopolitical concepts. The Versailles Treaty that ended World War I stripped Germany of its colonies and constrained resource access; this relegated Germany to a state of poverty and created a wellspring of discontent that Hitler used to his great advantage. As Germany’s Minister of Economics Halmer Schacht stated in 1937 during his trip to the United States, “[n]o great nation willingly allows its standard of life and culture to be lowered and no great nation accepts the risk

\textsuperscript{2} See generally A.T. Mahan, The Influence of Sea Power Upon History, 1660-1783 (1890).

\textsuperscript{3} See generally Rudolph Kjellen, Statens Som Lifsform (1916).


\textsuperscript{5} Karl Haushofer, Weltpolitik Von Heute 22-50 (1936).
that it will go hungry.” Germany, with ample coal resources in the Ruhr, required access to the iron deposits of French Alsace-Lorraine to rebuild its industry and prosper. The creation of the European Coal and Steel Community, which evolved into the European Union, was a stark recognition of the power of resource access as a driver of war and ushered in a new era of resource geopolitics built of resource access through permissive trade.

In the statecraft of today’s international political realm, the geopolitics of resources is taking on a new form. Resource geopolitics is no longer solely about controlling the land where the resources are produced, but is also about gaining access and securing supplies to drive the state’s economy. The behavior of a nation state is partially explained by its resource situation. What resources do they produce, what are the factor inputs essential to their manufacturing, and if resources must be imported, on which countries do they depend and how secure are those imports?

II. RESOURCES

Resources are anything that satisfies the needs of humankind; as culture and technology changes, so do resources. “Resources are not, they become.” Because of its limited supply and critical role as a preservative, salt was once a strategic resource, which drove foreign policy, created trade routes, and precipitated conflict. The discovery of new sources of salt and the development of technology in the form of refrigeration reduced salt’s strategic importance. Similarly, whale oil has been replaced by petroleum over the last century, reducing the importance of whale stocks and making the oil fields of the Middle East a vital resource to the United States. This resource,

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7 EUR. PARL. ASS. DEB. 32d Sess. 3 (Apr. 21, 1980).
10 Brian Trumbore, *The Arab Oil Embargo of 1973-74*,
arguably, has underpinned the two Iraq wars. The dynamics of resource importance to political processes varies with technology and economics.

The petroleum resources of Canada provide a good example of the relationship between economics and technology, and the determination of resources. At the time of the 1973-74 oil embargo, Canada’s reserves of petroleum were located on the East Coast in fields such as Hibernia. The threefold increase in the price of petroleum as a result of the political decisions made by the governments of OPEC drove the development of experimental technology in the oil sands deposits of Western Canada. In northern Alberta, petroleum is found embedded in the soil rather than contained in the conventional, easily recovered oil traps found in the Middle East.

In 1978-79, a second oil shock drove the price of oil up to $33 a barrel, making the recovery of oil from oil sands deposits an economic proposition for oil producers. This price, however, was not sustained. With sub-economic deposits, production was curtailed so that Canadian oil reserves totaled approximately three billion barrels in 2000. The unprecedented growth of the Chinese economy over the next decade and a half, however, drove the price of oil above $130 a barrel. By 2012, Canada had revised its petroleum


11 California Standard, supra note 10.


reserve totals up to 178 billion barrels, most of which were located in Western Canada’s oil sands deposits. When the price of oil rose, the unconventional oil deposits of Western Canada became economic, and technology was developed to mine the deposits and produce a form of liquid petroleum. This rise in the price of oil caused the oil sands deposits to become economically viable again, and oil companies returned to large-scale, sustained production. With carbon fuels and minerals, producers ask if they could recover the raw material with existing technology at a profit. Often, it is the rise in price that stimulates technological development and increases known resources.

III. RESOURCE GEOPOLITICS

During the Cold War the Soviet Union was economically self-sufficient, produced an abundance of strategic minerals, and was the world’s leading producer of petroleum. The Soviet Union cut off supplies of manganese and chromium to the United States during the Korean War and the Berlin Blockade, and was willing to manipulate resource exports for political advantage. Because the United States and its Japanese and European allies were heavily dependent on mineral and petroleum imports, they were vulnerable to Soviet supply cut off or manipulation of the mineral and oil markets. In his book, President Richard Nixon describes the Soviet resource geopolitical strategy as: “to gain control of the two great treasure houses on which the West depends, the energy treasure house of the Persian Gulf and the mineral treasure house of central and southern Africa.”  

Today, Russia practices resource geopolitics by using its leverage as the dominant regional natural gas producer and frequently cuts off supplies of gas to Europe for political purposes. With the rise of China as a potential peer competitor to the United States, China’s geopolitical strategy to assure resource security has become important to U.S. national security.

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Unlike the autarkic Soviet Union and resource-rich Russia, China’s requirement for resource imports is similar to that of the United States. With a dynamic economy growing at a rate of approximately ten percent for the last thirty years and the threat of domestic social instability, China has made resource security a priority. Its geopolitical “go out” strategy targets petroleum, strategic minerals, and food-producing countries and regions around the world. A major player in global commodity markets, China has driven up resource prices to new levels through its mass demands; for example, the price of copper escalated from $.70 a pound in 2002 to over $4 a pound in 2010.16 While China is import-dependent for many critical resources, in some minerals, such as the rare earth elements (REE), China is a leading producer.17 With over ninety percent of global rare earth production, China can—and has—manipulated REE production and export quotas to affect the profitability of new mining ventures and send a signal to its political adversaries, such as Japan and the United States.18 At the same time, China’s profitable trade relations with mineral-producing states have heightened its political influence in South America, Australia, and Africa. Importantly, China does not trust the global commodity markets, which were largely established by the West, and uses its $652 billion China Investment Corporation19 to gain control of international resource producing concessions.20

The vulnerability of industrial states to a cut off of resource imports by a producing state is determined by several factors. First, are there alternative geographically dispersed sources of supply? The loss of access to the approximately seventeen million barrels of conventional petroleum production that flows out of the Persian Gulf daily would be devastating to the global economy. Second, as is the case with REE and China and natural gas and Russia, the concentration of resource production in one adversarial country creates political leverage over the consuming country.

Loss of access can also result when trade with friendly countries is interrupted due to natural or man-made disasters, social unrest or labor strife, or damage to critical infrastructure. This vulnerability may be mitigated by several proven but often costly policies. Stockpiling resources may cover all or portions of the resource import shortfall for a critical portion of time. Minerals can be reused or recycled, providing substantial supplies over the short term. Energy and mineral substitutes may be developed. Alternative domestically produced sources of supply may be created, although this may take time. It is important to either institute these policies or plan for their implementation before import cut off occurs. This means that the national security community of a state must maintain awareness of the constantly changing patterns of important vulnerability. And, quite often, it means that the leaders must prioritize funding to create this virtual insurance against resource vulnerability.

In spite of mandated resource vulnerability assessments and watershed studies such as the Paley Report, the United States has proven repeatedly that it does not maintain awareness of its patterns of strategic resource consumption and sources of supply, nor does it prioritize the mandate of the Paley Report to “ensure an adequate and dependable flow of materials at the lowest cost consistent with

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the welfare of friendly nations.”22 For example, the United States was unaware of the political implications of its overwhelming dependence on Middle East petroleum in the early 1970s.23 As frankly observed by former Secretary of State Henry Kissinger, “it was the October 1973 Arab-Israeli War and subsequent embargo that exposed the vulnerability of the energy system. This came as somewhat of a surprise. . . . To say we were complacent is an understatement.”24

While developed countries have substantial capacity to address their geopolitical vulnerabilities, developing countries do not. The same principles of resource scarcity or imbalance of supply and demand that call into question the resource security and governmental legitimacy of developing countries affect developing countries as well. Quite often, however, the resources are markedly different. Agricultural land and water are the two resources that most affect food security and the human condition. The political system of a developing country must meet the demands placed on it by the population, which is often driven by human security priorities of freedom from want and freedom from fear. In a milieu increasingly affected by climate change, the inability of developing countries to successfully implement adaptation measures calls into question the food security and governmental legitimacy of those countries. As was demonstrated by the recent Arab Spring phenomenon, rising food costs or inadequate supplies can easily exacerbate previous tensions and rapidly erode the legitimacy of the government. The resulting instability can threaten U.S. security interests by bringing to power a government dedicated to extremist ideology, or creating a

power vacuum and large areas of ungoverned land in which terrorist training may occur.

CONCLUSION

Regardless of its level of development, resource scarcity and the imbalance of resource supply and demand are concepts with which the national security community of a state must be intimately aware. For non-autarkic states, resource imports may be existential. As the global population rises from seven billion to nine billion people over the next thirty-five years, resource demand will rise dramatically and necessitate the development of resource driven geopolitical strategies to ensure resource efficiency. It is quite likely that there will be heightened competition for these resources and increased tensions between consuming nations. Avoiding resource conflict can best be achieved by promoting conservation measures, proactively developing alternative products, and moving aggressively to mitigate climate change and help developing countries build their capacity to adapt to its effects. The geopolitical importance of resource scarcity will continue to evolve and give heightened importance to planning and international cooperation.
FROM SCARCITY TO ABUNDANCE: THE CHANGING DYNAMICS OF ENERGY CONFLICT

Michael T. Klare*

INTRODUCTION

In November 2012, the International Energy Agency (IEA) triggered headlines around the world when it announced that the United States, by dint of its success in utilizing new extractive technologies, would likely overtake Saudi Arabia to become the world’s leading oil producer by 2020.¹ At a time in which many analysts had come to believe that the world was facing an impending “peak” in global oil output followed by an irreversible decline,² the IEA’s report was said to herald a new and unexpected era of hydrocarbon plenty. In commenting on the report, many analysts spoke in particular about the purported economic benefits of energy abundance, notably the prospect of new jobs and manufacturing activities.³ As the IEA indicated, however, the new energy bounty

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has political and military implications. “This energy renaissance,” it declared, “has far-reaching consequences for energy markets, trade, and, potentially, even for energy security, geopolitics, and the global economy.”

Energy security and geopolitics have, of course, played a pivotal role in international affairs for a very long time, ever since the development of oil-powered vehicles and weapons of war. As the demand for petroleum exploded, especially in the years during and after World War I, the major military and industrial powers fought with one another for control over the world’s handful of oil-producing areas. Gaining access to foreign oil supplies was also a major war aim of Germany and Japan during World II and a major concern of the United States during the Cold War era. After the Cold War, the United States continued to place a high priority on ensuring its access to foreign oil supplies, employing military force on several occasions to protect the oil flow from the Persian Gulf. The 2012 IEA statement suggested, however, that the well-established relationship between energy and geopolitics would be profoundly altered as a result of the current “energy renaissance.”

As an energy-specific organization, the IEA did not offer its own prognosis on the geopolitical implications of its suggestive comment, except to note that we should expect a shift in the center of gravity of world oil and natural gas production from the Middle East to North America. Nevertheless, it is obvious from its analysis that this shift and other consequences of the “renaissance” will have profound implications for the foreign and security policies of both energy importing and exporting nations and for the prospects for


4 IEA, supra note 1, at 74.


6 WORLD ENERGY OUTLOOK 2012, supra note 1, at 74-80.
conflict over oil and gas. In particular, policies aimed at securing the safe flow of oil from the Middle East to markets in the West—a source of repeated crisis and conflict in the past—are now being called into question, while disputes over new sources of energy, such as those in offshore areas and the Arctic, have gained fresh attention. More importantly, the very basis for energy-driven security policies—an expectation of perpetually inadequate supplies of hydrocarbons—appears to have been rendered invalid by the dramatic rise in global output, raising doubts about the future likelihood of wars over oil.\footnote{See generally Ed Crooks & Geoff Dyer, \textit{Energy Security: Strength in Reserve}, FIN. TIMES, Sept. 5, 2013, \url{http://www.ft.com/cms/s/0/916a6744-0f14-11e3-8e58-00144fcabde0.html#axzz3BMCFD8uY}; Daniel Yergin, \textit{America’s New Energy Security}, WALL. ST. J., Dec. 12, 2011, \url{http://www.wsj.com/news/articles/SB10001424052970204449804577068932026951376}.}

Will conflict over energy supplies disappear in an era of oil and gas abundance? Or will it take new forms, governed by the changing geography of global supply and demand? Although it is still too early to provide a definitive answer to these questions, it is possible to detect several significant trends in energy geopolitics—all suggesting that the risk of conflict over oil and natural gas supplies will not disappear in an era of hydrocarbon abundance. This essay will trace the origins of energy geopolitics and attempt to show how it is being affected by the development of new production technologies.

\section{I. The Geopolitics of Scarcity}

The relationship between oil and geopolitics first arose during World War I when oil-powered weapons—tanks, planes, and submarines—first made their appearance on the battlefield and the major powers scoured the world for reliable sources of supply. With reserves limited and only a few major deposits then in production—mostly in the United States, Romania, Iran (then Persia), and Baku in the Czarist empire—the principal belligerents sought to control these
areas or deny their opponents access to them. After the war, the surviving great powers engaged in a competitive struggle to extend their sway in the major oil-producing areas, especially in the Persian Gulf area and the Caucasus.\(^8\)

Many scholars believe that it was Winston Churchill who first grasped the geopolitical significance of oil and its association with the Persian Gulf. In 1912, as First Lord of the Admiralty, Churchill ordered the conversion of British warships from coal to oil propulsion in the belief that this would give them an advantage over Germany’s coal-powered ships in the event of war.\(^9\) Because Great Britain at that time did not possess domestic oil reserves of its own (the North Sea fields were not discovered until much later), Churchill determined that London must obtain a secure overseas source of oil under direct British authority. The most propitious option, he concluded, was to impose government control over the Anglo-Persian Oil Company (APOC, the forerunner of British Petroleum), which had secured a concession to promising reserves in southwestern Persia. As a result of his prodding, Parliament voted in 1914 to nationalize APOC and bring its Persian concession under London’s control. From that point onward, the protection of APOC’s concession area, and of British supply lines to the Persian Gulf (especially the Suez Canal), were viewed as matters of vital national security by the British government.\(^10\)

The strategic aspect of the international competition for oil reserves continued to play a significant role in international relations after World War I and in the years leading up to the Second World War. The major European powers, possessing few domestic oil reserves of their own, focused much of their efforts on acquiring a foothold in the oil-bearing regions of the Middle East. This was the era of the San Remo Agreement of 1920, under which Britain obtained control over Iraq through a mandate from the League of

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\(^8\) See Daniel Yergin, *The Prize: The Epic Quest for Oil, Money & Power* 184-206 (2001) [hereinafter *The Prize*].


\(^10\) *Id.* at 129–76; see also *The Prize*, supra note 8, at 153–64.
Nations.11 Meanwhile, Japan—a rising industrial power with a similar paucity of oil—harbored imperial ambitions over the Dutch East Indies, then the major producer in Asia.

The need to secure overseas sources of oil played a significant role in the strategic planning of Germany and Japan, both of which sought to invade and conquer foreign producing areas in order to fuel their military forces and industrial systems. In 1941, when full-scale combat broke out, both undertook military strikes with this purpose in mind: Germany invaded the Soviet Union, with Baku as one of its primary objectives; Japan invaded the Dutch East Indies. With Washington becoming increasingly alarmed by Japan’s aggressive moves in Asia, Japanese leaders concluded that its invasion of the Dutch East Indies would provoke a U.S. military response of some sort. Japan simultaneously attacked the U.S. naval base at Pearl Harbor in Hawaii, thus ensuring American entry into the war.12

Until this point, the United States had not participated in the strategic—as distinct from the commercial—pursuit of overseas oil, as it possessed sufficient domestic reserves to satisfy its wartime military requirements and those of its principal allies. As World War II progressed, however, President Franklin D. Roosevelt and his senior advisers became worried that the heavy wartime extraction of domestic oil was rapidly depleting U.S. reserves, thereby eroding America’s capacity to sustain another full-scale war on the magnitude of World War II.13 Accordingly, Roosevelt ordered the State and Commerce Departments to seek a reliable foreign source of oil to

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12 See THE PRIZE, supra note 8, at 328-67.
13 At this time, American geologists were unaware of major deposits in Alaska and the deeper waters of the Gulf of Mexico, making it appear that U.S. reserves were shrinking faster than later proved to be the case.
supplement American reserves in the event of a major future conflict.\textsuperscript{14}

After considering the various possibilities, government experts became convinced that Saudi Arabia constituted the best candidate to serve in this capacity. Whereas most of the rest of the Persian Gulf area was controlled by Great Britain, Saudi Arabia had largely escaped British control. In addition, the Saudi monarch, King Abdul Aziz ibn Saud, had granted a substantial concession to an American oil firm, Standard Oil of California (Socal, later Chevron), giving the United States a significant presence in the country. On this basis, Roosevelt decided in 1943 to anoint Saudi Arabia as America’s preferred foreign supplier of oil and to bring the Kingdom under American military protection. Saudi Arabia was made eligible for U.S. aid under the Lend-Lease Act and consideration was given to the construction of a U.S. air base there. To bolster these efforts, Roosevelt met with Abdul Aziz on February 14, 1945, and forged an agreement with him under which the United States received privileged access to Saudi oil in return for a United States pledge to protect the monarchy against its assorted enemies.\textsuperscript{15}

With the Roosevelt-Abdul Aziz agreement in place, the United States began to insert a permanent military presence in the Gulf region. This led, in 1946-47, to the establishment of an air base at Dhahran in Saudi Arabia and a naval base at Bahrain.\textsuperscript{16} For the most part, however, American policymakers relied on Great Britain to maintain stability in the Gulf at this time. But, when London announced that it would withdraw most British forces from “East of Suez” by the end of 1971, Washington was forced to find another friendly power to carry the burden of regional security. The United


States chose to rely on the Iranian regime of Shah Reza Mohammed Pahlavi (whom the Americans and British had helped install as absolute monarch through a CIA-orchestrated coup in 1954). ¹⁷ From 1970 to 1979, the United States provided Iran with vast supplies of modern arms, helping to transform the Iranian military into a potent regional force.¹⁸ Not surprisingly, then, the fall of the Shah in January 1979 produced great consternation in Washington, as there was no obvious alternative to assume Iran’s role as a “surrogate gendarme.” Eleven months later, Washington received another shock when the Soviet Union commenced its invasion of Afghanistan, putting Soviet troops within a few hundred miles of the Persian Gulf and its vital energy supplies.

II. THE “CARTER DOCTRINE” AND BEYOND

The Islamic Revolution in Iran and the Soviet takeover of Afghanistan triggered a thorough review of U.S. policy toward the Gulf. This review coincided with significant shifts in U.S. energy trends. Until the early 1970s, the United States was largely able to satisfy its petroleum requirements with crude from domestic reserves. After 1972, however, domestic production went into decline and, with consumption experiencing steady growth, the country was forced to increase its reliance on imported oil. In 1970, imports accounted for twenty-one percent of total U.S. oil consumption; by 1979, they accounted for forty-three percent of consumption.¹⁹ As the United States was becoming more dependent on imports, the major oil-producing countries were banding together to exact higher prices for their products and, in some cases, to use their newfound economic clout to extract political concessions from the major oil consumers. This was especially evident in 1973-74, when members of the Organization of Petroleum Exporting Countries (OPEC)

quadrupled the price of crude and the Arab OPEC members imposed an embargo on sales to the United States, producing widespread shortages and a global economic recession.\textsuperscript{20}

With these developments in mind, then President Jimmy Carter and his top advisers concluded that U.S. interests in the Persian Gulf were too great to be entrusted into the hands of surrogates and must instead come under the direct protection of American forces. This proposition, ever since known as the “Carter Doctrine,” was spelled out in the President’s State of the Union address of January 23, 1980: “The region which is now threatened by Soviet troops in Afghanistan is of great strategic importance.”\textsuperscript{21} By occupying Afghanistan, President Carter explained that the Soviets are “now attempting to consolidate a strategic position . . . that poses a grave threat to the free movement of Middle East oil.”\textsuperscript{22} Given the importance of that oil to the United States and the world economy, the United States had to be ready to take decisive action: “Let our position be absolutely clear: An attempt by any outside force to gain control of the Persian Gulf region will be regarded as an assault on the vital interests of the United States of America, and such an assault will be repelled by any means necessary, including military force.”\textsuperscript{23}

Because the United States did not, at that time, possess any forces earmarked specifically for operations in the Arabian Gulf area, President Carter established a new military organization to implement this policy: the Rapid Deployment Joint Task Force (RDJTF). He also announced plans to deploy additional warships in the Gulf proper and to acquire new bases in the surrounding region. These measures received strong support from his successor, Ronald Reagan,

\textsuperscript{20} See \textit{THE PRIZE}, supra note 8, at 588–632.
\textsuperscript{22} Id.
who elevated the RDJTF into a full-scale regional combat organization, the U.S. Central Command (CENTCOM).24

President Reagan was also the first American leader to invoke Carter’s pledge to use force when needed to safeguard the flow of oil. When Iranian forces attacked Kuwaiti tankers during the Iran-Iraq War of 1980-88, Reagan determined that such action constituted a severe threat to the free flow of Persian Gulf oil and authorized the “reflagging” of those tankers with the American ensign, thereby allowing their protection by the U.S. Navy.25 On May 19, 1987, President Reagan stated: “Mark this point well: The use of the sea lanes of the Persian Gulf will not be dictated by the Iranians.”26 The protection of Persian Gulf oil was also cited by Reagan’s successor, President George H.W. Bush, as the justification for U.S. efforts to protect Saudi Arabia following the Iraqi invasion of Kuwait on August 2, 1990. “Our country now imports nearly half the oil it consumes and could face a major threat to its economic independence,” Bush declared on August 8th.27 Hence, “the sovereign independence of Saudi Arabia is of vital interest to the United States.”28

Today, the relationship between oil, security, and the Persian Gulf remains as strong as ever. This is evident in the recurring statements by American leaders that the United States will use force if necessary to ensure the safe flow of Persian Gulf oil through the Strait of Hormuz in response to any effort by Iran to impede such shipping. While the Persian Gulf has remained the principal focus of U.S. efforts to safeguard the global flow of oil, Washington has

24 PALMER, supra note 23, at 112–17.
25 Id. at 122–49.
26 Id. at 124 (quoting Ronald Reagan, Presidential Statement, (May 19, 1987)).
28 Id.
extended its protective shield to other oil-producing areas, especially the Caspian Sea basin and West Africa.29

This drive to secure new sources of energy began under President Clinton, who placed particular emphasis on the Caspian Sea region. After the break-up of the Soviet Union and the emergence of independent states in the Caspian basin, Clinton viewed this area as a promising new source of energy as well as a strategic alternative to reliance on the Persian Gulf. While eager to tap into the newly-accessible oil and natural gas reserves of the Caspian area, Clinton understood that any drive to direct Caspian Sea energy to the West would require a substantial reorganization of the region’s energy transportation system, as all existing export conduits dated from the Soviet era and traveled through Russia before reaching Western markets—a form of dependence on Moscow that Washington sought to escape.30 To establish an alternative export route to the West, Clinton lobbied for construction of the Baku-Tbilisi-Ceyhan (BTC) pipeline, connecting Azerbaijan’s sector of the Caspian Sea to Turkey’s Mediterranean coast via Georgia. Because this conduit passed through or near several areas of ethnic unrest, including Chechnya, South Ossetia, and Nagorno-Karabakh, Clinton also promised to bolster the military forces of the transit countries. In this manner, the safe flow of Caspian oil to the West became a matter of U.S. national security, as was the flow of Persian Gulf oil under the Carter Doctrine.31

Just as President Clinton had extended the Carter Doctrine to the Caspian Sea basin, President Bush extended it to West Africa. Like the Caspian region, West Africa was said to be of strategic importance to the United States both because of its prolific energy supplies and as an alternative to reliance on the Middle East.32 As

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30 The Caspian Sea itself is land-bound, so any oil or natural gas exiting the region for markets elsewhere must travel by pipeline or rail cars.
31 See generally BLOOD AND OIL, supra note 5, at 132–39.
32 See id. at 142–45.
Assistant Secretary of State Walter Kansteiner observed in 2002, “African oil is of national strategic interest to us, and it will increase and become more important as we go forward.”33 On this basis, the United States has provided favored African governments with various forms of military assistance, just as it has those in the Caspian Sea region.34 In further recognition of the area’s growing strategic importance, President Bush established a new military organization for the region, the U.S. Africa Command (AFRICOM). Although the establishment of AFRICOM was not explicitly tied to the protection of oil—as was the case for CENTCOM—it is evident from the historical record that concern over instability in the oil-producing areas of Africa was one of the motivating factors.35

III. THE END OF SCARCITY

Even today, the United States is pursuing a strategy driven in large part by concern over the safety of foreign oil supplies. In the Persian Gulf, U.S. forces are poised to counter any effort by Iran to block oil shipping through the Strait of Hormuz; likewise, American forces are involved in efforts to help protect oil pipelines in the Caspian Sea basin and offshore oil platforms in the Gulf of Guinea.36 While the safety of foreign oil supplies remains a major responsibility of the U.S. military, the economic and strategic underpinnings of these activities have shifted. Because of a sudden and significant increase in domestic energy production, the United States needs far

less imported oil than it did before; at the same time, U.S. oil consumption has leveled off in response to the global economic downturn and increases in the fuel efficiency of American vehicles. In place of scarcity, pundits and policymakers are now speaking of energy abundance as the determining factor in U.S. strategic planning. “Instead of facing an Era of Scarcity,” observed Rex Tillerson, the chairman and CEO of ExxonMobil, “we are now witnessing the transition to a new Era of Abundance.”

This transition, he said in 2013, will “spur economic growth, create jobs, and strengthen energy security.”

The shift from scarcity to abundance has been both extraordinary and unexpected. In 2005, when U.S. leaders were still warning of increased dependence on unreliable foreign suppliers, innovators in the oil and gas industry were already deploying new technologies with explosive potential. These included, most of all, horizontal drilling and hydraulic fracturing, or fracking—techniques that permit the exploitation of previously inaccessible oil and natural gas reserves in shale and other impermeable rock formations. Other innovations allow for the extraction of oil and gas in Arctic and deep-offshore waters, and for the conversion of bitumen and other heavy oils, such as Canadian tar sands (also called “oil sands”) into usable products. Together, these technologies have allowed for a dramatic turnaround in North American oil and gas output. Oil production in the United States jumped from 7.6 million barrels per day in 2010 to 10.0 million barrels in 2013, an increase of thirty-two percent in just three years. If current estimates by the Energy Information Administration (EIA) prove accurate, domestic output will jump to 12.8 million barrels per day in 2020, the highest it has been since 1972.

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38 Id.


40 See Table 1, infra.
to see a sharp increase, with output climbing from 21.3 trillion cubic feet in 2010 to an estimated 31.4 trillion in 2035.\textsuperscript{41} Canada, meanwhile, is expected to see its oil output jump from 3.6 million barrels per day in 2010 to 6.1 million barrels in 2035, with most of this increase coming from Alberta’s tar sands.\textsuperscript{42}

Not only is the United States enjoying an increase in domestic energy output, but it is also using less oil. Total consumption dropped from a high of 20.7 million barrels per day in 2007 to 18.6 million barrels in 2012, and is expected to remain at that level for the indefinite future.\textsuperscript{43} When combined with rising domestic oil output, this decline has resulted in a significantly reduced need for imported oil. From a peak of 13.8 million barrels per day in 2007 (or sixty-seven percent of total U.S. consumption), U.S. oil imports fell to 8.9 million barrels in 2013 (forty-seven percent of consumption). According to the most recent EIA projections, U.S. oil imports will decline even further in the years ahead to 6.7 million barrels per day in 2020 (thirty-four percent of consumption).\textsuperscript{44} Of this 6.7 million barrels, moreover, approximately half is expected to come from Canada (mostly in the form of diluted bitumen), reducing U.S. reliance on imports from extra-hemispheric sources even further.

Although the United States and Canada are, at present, the principal beneficiaries of the revolution in energy technology, they are not expected to remain the sole proprietors of these new techniques. Many other countries possess large deposits of shale oil and gas and are beginning to employ hydraulic fracturing in a drive to exploit these reserves. China and Russia, for example, have announced ambitious plans to develop their extensive shale deposits, as have Argentina, Poland, Ukraine, the United Kingdom, and South

\textsuperscript{41} ENERGY INFO. ADMIN., ANNUAL ENERGY OUTLOOK 2014 WITH PROJECTIONS TO 2040, Table A14 (2014), http://www.eia.gov/forecasts/aeo/pdf/0383%282014%29.pdf.

\textsuperscript{42} ENERGY INFO. ADMIN., INTERNATIONAL ENERGY OUTLOOK 2013 247, Table G1 (2013), http://www.eia.gov/forecasts/ieo/pdf/0484%282013%29.pdf.

\textsuperscript{43} Id. at 184, Table A5.

\textsuperscript{44} Id. at 247, Table G.
Africa. Similarly, nations with significant offshore and Arctic reserves, including Canada, China, Norway, Russia, and Vietnam, have marshaled advanced technologies to develop these resources. As a result, global supplies of oil and natural gas are expected to remain relatively robust for years to come.

As suggested by the IEA in its 2012 report, these developments are bound to affect energy geopolitics in many ways. Some of these effects are not likely to be evident for many years, but some are already being felt. In particular, the new energy abundance appears to be altering U.S. relations with the Persian Gulf, Russia, and Europe. At the same time, new forms of energy-related competition and conflict are emerging in other areas, including Eurasia, the Arctic, and the deep oceans.

IV. America’s “Enduring Posture” in the Persian Gulf

For some analysts, the natural response to diminished U.S. reliance on Middle Eastern oil would be the withdrawal of American forces from the Gulf and their deployment elsewhere to areas of greater strategic significance. As paraphrased by The Economist, these analysts argue that “if America can produce its own oil . . . why waste so much blood and treasure policing the Middle East?” On the surface, this outlook seems to make eminent sense, especially given the high cost of maintaining a substantial military presence in the Gulf at a time of diminished budget allocations. However, most senior policymakers reject this option, saying the Gulf area remains

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45 See Technically Recoverable Shale Oil and Shale Gas Resources: An Assessment of 137 Shale Formations in 41 Countries Outside the United States, ENERGY INFO. ADMIN. (last updated June 13, 2013), http://www.eia.gov/analysis/studies/worldshalegas/ (assessing global shale oil and gas reserves); see INTERNATIONAL ENERGY OUTLOOK 2013, supra note 42, at 50-56 (discussing plans for the exploitation of shale gas reserves).

46 WORLD ENERGY OUTLOOK 2012, supra note 1, at 81–154.

vital to U.S. security. Because the continued flow of Middle Eastern oil is considered essential to world economic vigor—whether or not that oil flows to U.S. markets—any significant U.S. military withdrawal could lead to increased regional instability, disruptions in the oil flow, and global economic chaos. As noted by Rex Tillerson of Exxon, the uninterrupted flow of Persian Gulf oil is essential “to global economic stability,” and thus to U.S. security. Even if “we’re no longer getting any oil from the Middle East because we’re secure here,” he explained, “a disruption of oil supplies from that region will have devastating impacts on global economies,” ours included.

This logic appears to have persuaded President Obama, who has pledged to retain a strong military presence in the Gulf. “The United States of America is prepared to use all elements of our power, including military force, to secure our core interests in the region,” he told the U.N. General Assembly on September 24, 2013. “We will ensure the free flow of energy from the region to the world.” Even though America is steadily reducing its dependence on imported oil, he explained, “the world still depends on the region’s energy supply, and a severe disruption could destabilize the entire global economy.”

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50 Id.


52 Id.

53 Id.
Obama has also indicated that there will be a major shift in U.S. strategy in the region. Instead of employing troops on the ground to affect the outcome of regional power struggles as it has in the past, the United States will rely on air and naval forces to ensure the uninterrupted transportation of oil. This requires maintaining sufficient forces in the area to prevent any attempt by Iran to block the Strait of Hormuz, the crucial waterway connecting the Gulf to the Indian Ocean. According to the New York Times, President Obama, through intermediaries, has told Iran’s Supreme Leader, Ayatollah Ali Khamenei, that closing the Strait of Hormuz is a “red line” that would provoke an automatic U.S. military response. To ensure that this is not an empty threat, Obama has ordered the Pentagon to deploy sufficient air and naval strength in the area to overcome any move by Iran to block the Strait. In the event Iran attempted such a move, General Martin E. Dempsey, Chairman of the Joint Chiefs of Staff, said the United States will “take action and reopen the Strait.”

It is evident, however, that U.S. policy extends beyond simply keeping the Strait open. As suggested by Obama in his 2013 speech to the United Nations, the United States intends to remain the dominant military power in the region and exercise ultimate control over the global flow of oil—and this, in fact, remains one of the principal missions of the U.S. Central Command. “The U.S. fully intends to maintain a strong and enduring military posture in the [Gulf] region, one that can respond swiftly to crisis, deter aggression and assure our allies,” declared CENTCOM commander General Lloyd J. Austin III in his March 2014 testimony before Congress.

This “enduring posture” is intended to overcome any threats to


55 Id.

56 Obama to U.N. General Assembly, supra note 51.

regional security and the safety of oil exports, but also to deter any other power from assuming such a role.

This posture was on clear display in the spring of 2014, when Islamic militants invaded Iraq from their strongholds in Syria and captured Mosul, Iraq’s second largest city. With these militants—largely Sunnis under the banner of the Islamic State of Iraq and Syria (ISIS)—in control of major population centers and key energy infrastructure, President Obama decided to send hundreds of U.S. military advisers to Iraq to help the beleaguered forces of Prime Minister Haider al-Abadi fend off the threat to Baghdad and Shiite-populated areas in the south. “We will be helping Iraqis as they take the fight to terrorists who threaten the Iraqi people, the region and American interests as well,” Obama told reporters on June 19.58 How this initiative will evolve in the months ahead cannot be foreseen, but it starkly testifies to Washington’s enduring interest in the stability of the Persian Gulf area.

V. INCREASED UNITED STATES PRESSURE ON RUSSIA

If increased North American energy output has failed to produce a dramatic shift in U.S. ties with the Persian Gulf area, it is having a significant impact on U.S. relations with Europe and Russia—particularly in response to the Ukraine crisis of 2013-14. Even before Russia seized Crimea and began its meddling in eastern Ukraine, U.S. pundits and policymakers were calling on the Obama administration to facilitate the export of U.S. natural gas to Europe as a way of reducing Europe’s reliance on Russian gas—and thus, it was claimed, Europe’s excessive deference to Moscow’s political preferences.59 Once the crisis broke out, these calls became even


more strident, with Republicans in Congress introducing legislation to eliminate regulatory barriers to such exports.

At present, Europe relies on natural gas for about one-fourth of its total energy consumption, with about thirty percent of that gas coming from Russia. Europe’s dependence on Russian gas is a product of several factors, including proximity, prolific Russian gas deposits, limited European reserves, and an elaborate system of pipelines connecting Russian fields to European markets.\(^{60}\) To further cement these ties, Gazprom—the Russian state-controlled gas behemoth—has established partnerships with many of the leading European gas-distribution companies, including Eni of Italy and E.ON of Germany.\(^{61}\) Ukraine occupies a particularly significant role in this elaborate system, as more than half of all the gas supplied to Europe by Russia in 2013 was carried through pipelines crossing that country.\(^{62}\)

Because so much of Europe’s gas is obtained from pipelines that pass through Ukraine, European consumers have periodically suffered from shortages resulting from Moscow’s efforts to intimidate Ukrainian officials by halting or reducing the inflow of gas into those conduits, usually during negotiations over the price Ukraine pays for its imports of Russian gas. Initially, when Ukraine first separated from the former Soviet Union in 1991, Gazprom provided it with gas at a discounted rate compared to what the same gas sold for in Western Europe. As Ukraine moved closer to the West, however, Moscow raised the price it charged Ukraine for gas. When Ukrainian officials refused to pay the higher amount, Moscow cut off supplies—thereby reducing or eliminating the flow to

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\(^{60}\) See generally Russia, ENERGY INFO. ADMIN. (Nov. 26, 2013), http://www.eia.gov/countries/analysisbriefs/Russia/russia.pdf; see also INTERNATIONAL ENERGY OUTLOOK 2013, supra note 42, at 45, 51, 58.


\(^{62}\) Id.
European recipients further along the pipelines’ path. In response, individual European countries and the European Union have adopted a series of measures intended to reduce their reliance on Russian gas and/or their exposure to political strife in Ukraine. These have included the construction of Nordstream, a Russian-German pipeline that bypasses Ukraine, and plans for additional pipelines that rely on non-Russian sources in the Middle East and Africa.

American officials have long urged Europeans to further reduce their dependence on Russian natural gas, saying such reliance undermines Euro-Atlantic solidarity and, accordingly, NATO’s ability to confront Moscow in a crisis. In particular, Washington has sought to persuade European leaders to accelerate the construction of pipelines that would bypass Russia and to increase their reliance on imports of liquefied natural gas (LNG), which can be shipped from numerous suppliers, including the United States. The Obama administration has also encouraged Europeans to develop their domestic reserves of shale gas, further diminishing their reliance on Russian supplies.

Not surprisingly, these efforts received a substantial boost when the Ukraine crisis erupted in the fall of 2013. This crisis had many roots, including anger over widespread governmental corruption and a desire on the part of many Ukrainians to reduce their economic ties to Moscow, but also revolved to a considerable degree around energy issues. As part of the “association agreement” Kiev was planning to sign with the European Union prior to the onset of the crisis, Ukraine’s energy systems would come under

64 Id. at 241-43; see also EUROPEAN COMM’N, COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL: EUROPEAN ENERGY SECURITY STRATEGY (May 28, 2014), http://ec.europa.eu/energy/doc/20140528_energy_security_communication.pdf.
European Union rules and regulations on competition and transparency,\(^{66}\) thereby precluding secret deals of the sort previously concluded between Ukraine’s natural gas oligarchs and their counterparts in Russia. Under pressure from Russian President Vladimir Putin, the Ukrainian president, Viktor Yanukovych, scrapped the European Union deal and opted instead for closer ties with Moscow—thereby triggering the mass protests that eventually led to his flight and the establishment of a new government in Kiev.\(^{67}\) Russia, fearing the loss of its influence in the region and key strategic assets, seized Crimea and instigated an anti-government insurgency in eastern Ukraine. Although driven in part by nationalistic impulses, Putin’s seizure of Crimea gave Russia control over a significant swath of the Black Sea thought to house substantial reserves of oil and natural gas.\(^{68}\)

To discourage further adventurism by Moscow, the United States has imposed tough sanctions on key members of Putin’s inner circle and warned of further such measures if Moscow does not exercise restraint. Recognizing that U.S. efforts alone are insufficient to deter Moscow, American leaders have also sought to stiffen Europe’s resistance to Russian provocations by helping to reduce its reliance on Russian natural gas.\(^{69}\) As suggested by House Speaker John A. Boehner, European reliance on Russian energy “has diplomatic repercussions, making them more reluctant to challenge some of Mr. Putin’s arrogant actions.” The answer to this dilemma,


\(^{69}\) See Davenport & Erlanger, *supra* note 59.
he suggested, is to provide Europe with gas from America’s “vast
supplies of natural energy.”

Before the United States can act on this strategy, however,
the White House must facilitate the construction of new facilities for
converting domestic gas supplies into LNG, thereby enabling its
shipment to Europe by sea. At present, only one such facility, at
Sabine Pass, Louisiana, has received the necessary permits and is
actually under construction. Plans for another half-dozen such
facilities have received preliminary clearance and are expected to
proceed into development, but will not commence operations for
several years; applications for another twenty-four LNG terminals are
under evaluation by the Department of Energy. Part of the holdup
is existing U.S. legislation, which requires a comprehensive
assessment of each facility’s contribution to the national interest. In
response to the Russian intervention in Ukraine, however, American
politicians are calling for the adoption of new rules allowing a more
rapid approval process. In March, Boehner declared that
“[e]xpediting approval of natural gas exports is one clear step the U.S.
can take to stand by our allies and stand up to Russian aggression.”

Although calls for quicker approval of LNG export facilities
enjoy strong support in Washington and are likely to result in new
rules and regulations, some analysts question whether such actions
will have any significant impact on Putin’s strategic calculations. For
one thing, the earliest U.S. shipments of LNG to Europe will not
occur until late 2015 or early 2016, by which time the political
situation in Ukraine will, presumably, be resolved. Furthermore, the

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70 John Boehner, Counter Putin by Liberating U.S. Natural Gas, WALL ST. J.,
46260.
71 See Project Sponsors Are Seeking Federal Approval to Export Domestic Natural
72 Boehner: Stand Up to Putin by Ending De Facto Ban on U.S. Natural Gas
Exports, press release, Speaker Boehner’s Press Office (Mar. 4, 2014),
http://www.speaker.gov/press-release/boehner-stand-putin-ending-de-facto-ban-
us-natural-gas-exports.
added cost of liquefying the gas, shipping it across the Atlantic, and turning it back into gas at the other end will make U.S. gas as expensive as Russian gas, eliminating some of the incentive to switch. On top of this, LNG prices in Asia are significantly higher than those in Europe, so future U.S. exports are likely to cross the Pacific, not the Atlantic. ³³

Despite these doubts, U.S. leaders are likely to continue advocating the shipment of U.S. gas to Europe as a way of exploiting growing U.S. energy abundance for political advantage. “Moscow is not immune from pressure,” former Secretary of State Condoleezza Rice wrote in March. ⁷⁴ The Putin regime relies on oil and gas exports for its economic survival, she noted. But soon, “North America’s bounty of oil and gas will swamp Moscow’s capacity,” deterring Russian adventurism. ⁷⁵

VI. NEW SITES OF CONTENTION

The introduction of new modes of extraction is altering the global geopolitical equation in other significant ways. Among many noteworthy effects, new modes of extraction enable the exploitation of once-inaccessible oil and gas reserves in the Arctic and the deep oceans. In some cases, however, the ownership of these reserves is in dispute, as they lie in areas with unresolved boundaries. This is producing new sources of friction and conflict, as nations fight for control over these promising resources.

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⁷⁵ Id.
Energy companies have, of course, long drilled for oil and natural gas in shallow coastal areas adjacent to their onshore deposits, for example, in waters of the Gulf of Mexico off Louisiana and in the Caspian Sea off Baku in what is now Azerbaijan. The development of deepwater drilling, however, is a relatively recent phenomenon. In 2005, Chevron set a record by drilling in 3,500 feet of water in the Gulf of Mexico, a major site for deepwater innovation. Just one year later, Chevron doubled that depth at its Jack No. 2 well at another Gulf location.\(^\text{76}\) Shell was the next to break records, announcing in 2010 that it had drilled 8,000 feet beneath sea level at its Perdido field, 200 miles east of the Texas coastline.\(^\text{77}\) Brazilians are also beginning to reach extreme depths in their efforts to exploit newly discovered undersea reservoirs in the South Atlantic, called “pre-salt” fields because they lie below a thick layer of salt.\(^\text{78}\) Record-breaking depths have also been reached in waters off India and Angola.

The introduction of deep-sea drilling technologies is expected to result in a substantial increase in hydrocarbon output from offshore fields. “In deepwater around the world, our industry’s technologies will allow production to more than double over the next 30 years,” Exxon’s Tillerson affirmed in 2013.\(^\text{79}\) At the same time, however, the onset of drilling in some offshore areas is generating new sources of conflict, as countries fight over the possession of undersea reserves in disputed maritime areas. While some offshore fields lie in areas that are under the undisputed jurisdiction of adjacent countries, such as Shell’s and Chevron’s operations in the U.S. portion of the Gulf of Mexico, others lie in areas that are disputed by two or more countries, as is the case of promising reserves in the East and South China Seas.\(^\text{80}\)

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\(^{77}\) Id.

\(^{78}\) For more information on Brazil’s “pre-salt” development plans, see Brazil, ENERGY INFO. ADMIN. (Oct. 1, 2013), http://www.eia.gov/countries/cab.cfm?fips=BR.

\(^{79}\) Tillerson, supra note 37.

\(^{80}\) For background on this issue, see THE RACE FOR WHAT’S LEFT, supra note 76, at 63; Tillerson, supra note 37.
The East and South China Seas are semi-enclosed extensions of the western Pacific Ocean that harbor a number of small uninhabited islands and are bordered by China and a number of other states: the East China Sea by Japan and Taiwan; the South China Sea by Brunei, Malaysia, the Philippines, Taiwan, and Vietnam. In both cases, the bordering countries have laid claim to significant swaths of these waters, citing historical ownership of assorted islands as well as development rights provided under the United Nations Convention on the Law of the Sea (UNCLOS). The UNCLOS treaty, first approved in 1982, grants signatory powers an “exclusive economic zone” (EEZ) extending up to 200 nautical miles from their coastline. In the case of continental states, such as China, the UNCLOS treaty also allows them to exploit their outer continental shelf, even if it extends beyond 200 miles. Given the relatively small size of these two seas, this has led to a welter of overlapping claims to the waters involved, with China claiming the lion’s share of both areas and the other states contending with both China and their immediate neighbors. To demonstrate their resolve to protect their claims, most of these countries have deployed naval or coast guard vessels in their respective EEZs. On some occasions, this has resulted in maritime clashes between the contending forces.

Energy analysts are divided over the energy potential of the East and South China Seas, but both are believed to harbor significant reserves of oil and natural gas. According to the EIA, the

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East China Sea holds between 60 and 100 million barrels of oil and between 1 and 2 trillion cubic feet of natural gas. Chinese experts, however, see a much larger potential: as much as 70 to 160 billion barrels of oil and 250 to 300 trillion cubic feet of gas.\textsuperscript{84} A similar mismatch prevails in estimates of reserves in the South China Sea: the EIA sees only 11 billion barrels of oil and 190 trillion cubic feet of gas, while Chinese experts see as much as 125 billion barrels of oil and up to 500 trillion cubic feet of gas.\textsuperscript{85} Very little systematic testing has been conducted in these areas, so it is impossible to verify these estimates. Nevertheless, it is evident that both bodies of water possess oil and gas reserves on a scale sufficient to attract the interest of all surrounding countries.

Until now, most of the drilling in the East and South China Seas has occurred at sites in the undisputed EEZs of one or another of the states involved. Recently, however, China has begun drilling in parts of the South China Sea claimed by Vietnam, provoking naval clashes and anti-Chinese riots in Vietnamese cities. The most serious episode erupted in May 2014, when the China National Offshore Oil Corporation (CNOOC) deployed its largest deepwater drilling rig, the HD-981, in waters off the northern coast of Vietnam.\textsuperscript{86} Once emplaced in the drilling area, the Chinese surrounded the HD-981 with a large flotilla of naval and coast guard ships; and when Vietnamese coast guard vessels attempted to penetrate this defensive ring in an effort to drive off the rig, they were rammed by Chinese ships and pummeled by water cannon. No lives were lost in those

\textsuperscript{84} East China Sea, supra note 81.
\textsuperscript{85} South China Sea, supra note 81.
encounters, but anti-Chinese rioting in Vietnam proper led to several deaths and scores of injuries.  

As noted in most press accounts of these events, the naval clashes and rioting sparked by the deployment of HD-981 in Vietnamese-claimed waters were driven in large part by nationalism and resentment over past humiliations. The Chinese, insisting that the islands in the South China Sea were once ruled by China, are seeking to overcome the territorial losses they suffered under the sway of the Western imperial powers and Imperial Japan. Similarly, the Vietnamese, long accustomed to Chinese invasions, seek to protect what they view as their sovereign territory. Despite the socio-political implications, the energy dimensions of the conflict should not be minimized. Both China and Vietnam are determined to exploit the oil and gas reserves of the South China Sea, and neither shows any inclination to compromise on their respective claims. The same can be said of the Philippines with respect to its swath of that sea, and of Japan with respect to contested areas of the East China Sea. So long as these bodies of water are viewed as a valuable source of energy, the parties to these disputes are likely to persist in their efforts to exploit what they view as their rightful resources—even if this means risking armed conflict with their neighbors.


VII. THE MILITARIZATION OF THE ARCTIC

The development of new drilling technologies is also leading to increased oil and gas drilling in the Arctic region—and here, too, disputes have arisen over the ownership of valuable reserves.

The Arctic region, encompassing the northern reaches of Alaska, Canada, Norway, and Russia, plus the Arctic Ocean itself, occupies only six percent of the Earth’s surface yet is believed to house approximately thirty percent of the world’s undiscovered natural gas and thirteen percent of its undiscovered oil.89 Until recently, the Arctic’s harsh weather conditions and year-round ice cover made it highly unattractive as a site for oil and gas drilling; however, as a result of climate change and the introduction of ice-hardened drilling rigs, energy companies are finding it easier to operate in the region. With sea ice now vastly reduced in summer months, the drilling season has been extended and drilling platforms can operate further north. To take advantage of these conditions, oil companies are stepping up their efforts to exploit the Arctic’s energy resources.90 Royal Dutch Shell, for example, is attempting to drill in areas of the Beaufort and Chukchi Seas off Alaska, while Statoil is extracting gas from Norway’s sector of the Barents Sea, and Gazprom is preparing to drill in the Pechora Sea off northern Siberia. Many other such endeavors, including a collaborative effort between Exxon and Rosneft to exploit oil reserves in the Kara Sea, are likely to get under way in the years ahead.91

91 For background on these endeavors, see THE RACE FOR WHAT’S LEFT, supra note 76, at 70–93; see also Clifford Krauss, Exxon and Russia’s Oil Company in Deal for Joint Projects, N.Y. TIMES, Apr. 16, 2012,
Although promising as a fresh source of energy, the development of the Arctic’s oil and gas reserves is likely to spark new geopolitical tensions. This is due to the region’s immense resource potential and the fact that disputes have arisen over the location of offshore boundaries in the Arctic Ocean—and thus over the ownership of certain promising energy reserves. The United States, for example, has a boundary dispute with Russia in the Bering Sea and with Canada in the Beaufort Sea; Canada has a dispute of its own with Greenland over their mutual boundary; and Greenland has one with Iceland. All of these countries, moreover, are vying for control over the outer Arctic, beyond their respective 200-nautical-mile EEZs. These disputes would not provoke much concern in the absence of major energy deposits, but take on increased significance when the countries involved hope to procure significant economic benefits from the disputed areas. As noted by Secretary of Defense Chuck Hagel in November 2013, “a flood of interest in energy exploration [in the Arctic] has the potential to heighten tensions over other issues.”

The risk of tension and conflict in the Arctic is further exacerbated by the determination of key regional policymakers to rely on military power to reinforce their claims to contested territories. Although the Arctic states have pledged to refrain from the use of force in asserting their claims, most have taken steps to enhance their capacity to engage in combat operations in the area. Russia, for example, has announced plans to establish new bases in the Arctic.

92 For background on Arctic boundary disputes, see Reginald R. Smith, *The Arctic: A New Partnership Paradigm of the Next “Cold War”?* 63 JOINT FORCES Q.,117–24 (2011); see also *Changes in the Arctic*, supra note 90, at 15–16.
and to deploy specially equipped combat forces there. This buildup, said President Putin, “will make it possible to substantially strengthen our military and border security and also to increase the effectiveness of the protection of natural resources.”\footnote{\cite{95}} Canada has also taken steps to bolster its presence in the Arctic, establishing a new base at Resolute Bay on Cornwallis Island and ordering a new fleet of ice-hardened patrol ships.\footnote{\cite{96}} Norway, which shares a border with Russia in its far north, has relocated its combined military headquarters to Boda, above the Arctic Circle, and has taken other steps to bolster its Arctic combat capabilities.\footnote{\cite{97}}

The potential for friction and conflict arising from the contention over prime Arctic real estate is further exacerbated by the lack of a clear legal regime and adjudicative system for the resolution of Arctic boundary disputes. UNCLOS provides conflicting guidance on the determination of offshore territories, awarding coastal states a 200-mile EEZ but also allowing them to claim control over their outer continental shelf, even if it extends beyond 200 nautical miles. The Convention also provides for the adjudication of offshore boundary disputes by the newly-established International Tribunal for the Law of the Sea, but few states have been willing to bring their disputes to this body, which only examines cases brought on a voluntary basis.\footnote{\cite{98}} The only other international organization with jurisdiction in the region, the Arctic Council, is not empowered to address territorial disputes.\footnote{\cite{99}} It is likely, then, that these disputes will

\footnotetext[95]{Jacob Kipp, \textit{Russian Strategic Interests Expand in the Arctic}, 8 EURASIA DAILY MONITOR 173 (Sept. 21, 2011), http://www.jamestown.org/single/?tx_ttnews\_\%5Btt\_news\%5D=38430&no_cach e=1#.VNfS5HacMU1; for background on Russian military initiatives in the Arctic, see Conley and Kraut, supra note 94, at 23–25.}

\footnotetext[96]{See Conley and Kraut, supra note 94, at 17–18.}

\footnotetext[97]{Id. at 21–23.}


\footnotetext[99]{See Arctic Council, U.S. DEP’T OF STATE, http://www.state.gov/e/oes/ocsns/opa/arc/ac/ (last visited Oct. 9, 2014).}
continue to fester as the drive to exploit the Arctic’s energy riches gains momentum.

VIII. THE ROAD AHEAD

As this brief survey suggests, the geopolitics of energy was long governed by expectations of *scarcity*—the presumption that oil and natural gas reserves are limited in extent, and that, as global demand increased, the competition for what remained would become increasingly intense and fractious. In fact, significant shortages and supply disruptions have occurred in past decades, lending credibility to this presumption. However, earlier predictions that the world of 2014 would be facing a downward curve in the global supply of hydrocarbons have been replaced by expectations of energy abundance, stretching out for decades to come. Indeed, many analysts now suggest that the global demand for fossil fuels like oil and natural gas will begin to contract long before supplies disappear, as countries around the world institute measures to reduce emissions of climate-altering greenhouse gases.\(^{100}\) Under these circumstances, we might reasonably expect a dramatic shift in the character of energy geopolitics, with considerably less emphasis on the use of force to secure overseas sources of supply. Yet, while there has been some alteration in the global policy landscape, conflict over energy continues to convulse international affairs.

Several factors can be identified to explain the persistence of energy competition and conflict. To begin with, the expectations of abundance expressed in the United States, Canada, and some other countries are not shared by all major energy consumers. The leaders of China and Japan, for example, continue to worry about their ability to procure sufficient oil and gas supplies from foreign suppliers to meet their long-term requirements. And while the new


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Extractive technologies are expected to permit the exploitation of vast hydrocarbon reserves in such locales as Argentina, Brazil, China, Russia, and Saudi Arabia, it is still not known whether they will perform as well in these places as they have in the United States and Canada.\textsuperscript{101} Under these circumstances, many countries will continue to view energy through the lens of potential scarcity, as they have in the past.

Even if oil and natural gas prove to be more abundant than originally assumed, these products continue to be viewed as vital materials whose possession, in adequate amounts, is essential for the well-being and security of the nation. As noted by Robert E. Ebel of the Center for Strategic and International Studies in a 2002 address at the State Department, “oil fuels much more than automobiles and airplanes. Oil fuels military power, national treasuries, and international politics.”\textsuperscript{102} Far more than an ordinary trade commodity, “it is a determinant of well-being, of national security, and international power for those who possess this vital resource and the converse for those who do not.”\textsuperscript{103} This assessment has governed international policymaking for over a century, and while the widespread introduction of renewable energy may, in time, render it moot, it will continue to shape the foreign and security policies of nation-states for some time to come.

The struggle for control over key deposits of energy has been a significant source of conflict in the past, and is likely to remain so for some time into the future. The nature, locale, and dynamics of such conflict may well experience change in the years ahead, but the underlying motive—to ensure adequate supplies to satisfy critical national requirements—will not.


\textsuperscript{103} \textit{Id.}
Table 1: U.S. Oil Production, Consumption, and Imports, Actual 2005-2013 and Projected 2015-2040 (in million barrels per day)

<table>
<thead>
<tr>
<th></th>
<th>Oil Consumption</th>
<th>Oil Production</th>
<th>Oil Imports</th>
<th>Imports as % of consumption</th>
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<tr>
<td>2005 Actual (A)</td>
<td>20.8</td>
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<td>13.9</td>
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<tr>
<td>2010 A</td>
<td>19.1</td>
<td>7.6</td>
<td>11.6</td>
<td>60.5</td>
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<tr>
<td>2013 A*</td>
<td>18.9</td>
<td>10.0</td>
<td>8.9</td>
<td>47.0</td>
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<tr>
<td>2015 Projected (P)</td>
<td>19.1</td>
<td>12.2</td>
<td>6.9</td>
<td>36.1</td>
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<tr>
<td>2020 P</td>
<td>19.5</td>
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<td>2025 P</td>
<td>19.2</td>
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<td>2040 P</td>
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Source for Projected data: ENERGY INFO. ADMIN., INTERNATIONAL ENERGY OUTLOOK 2013, supra note 42, at Tables A5, G1.

FOOD AS A KEY RESOURCE FOR SECURITY AND STABILITY: IMPLICATIONS OF CHANGES IN THE GLOBAL FOOD SYSTEM 1950-2000

Bryan L. McDonald, PhD*

INTRODUCTION¹

When world leaders gathered in 2009 at the G-8 Summit in L’Aquila, Italy, food was a major topic of concern. The assembled leaders pledged to “act with the scale and urgency needed to achieve sustainable global food security.”² There was good reason for their focus. By the early twenty-first century, food, long a subject of concern for the security, stability and prosperity of societies, had re-emerged as a topic of broad interest in the U.S. and around the world. This attention was driven by a number of trends, including: far-ranging and high-profile food safety episodes; record high rates of chronic hunger and obesity; outbreaks of violence and unrest fueled in part by high food prices and high price volatility; and concern about impacts on food systems from changing trends in weather and

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¹ This article updates and extends arguments and material first presented in BRYAN L. MCDONALD, FOOD SECURITY (2010).

climate. Events of the early twenty-first century demonstrate that ensuring food security remains an urgent problem that affects the security and national interests of states, as well as the human security of people and communities around the world. For example, in its 2014 Worldwide Threat Assessment, the U.S. Intelligence Community recognized competition for secure access to food as a growing security threat. This article examines how the landscape of food security threats and vulnerabilities is changing and identifies three sets of concerns that are converging to amplify, disrupt, and transform efforts to ensure that all people are food secure: nutrition, food safety, and global environmental change.

I. FOOD SECURITY IN AN AGE OF GLOBAL CHANGE

While many definitions of food security exist, the most commonly used definition holds that food security “exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.” The key components of food security are: availability, access, utilization, and stability. Globalization and global environmental change have significantly impacted the ways people get food and have given rise to a complex, transnational network of food systems that includes a range of activities and processes related to food.

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7 See FOOD SECURITY, supra note 1.
The global food network brings new opportunities—ranging from a greater variety of foods to improved economic development options—but also new threats and vulnerabilities. Without a full understanding of the risks and opportunities posed by such networks they cannot be used to their full potential to address pressing global problems such as enhancing security, ensuring prosperity, alleviating poverty, and improving the status of women. Concurrently, the emerging structure of the pattern of relations involved in connecting places and people through food highlights the challenge of governing complex, networked systems that are becoming increasingly common and impactful in global affairs.

Globalization is a primary driver of changes occurring in food systems and has brought increased interconnectedness, mobility, and access for transnational flows of goods, people, and information. Globalization can be understood as a set of processes involving increasing speed and scale of interactions that operate through networks and are transforming many aspects of daily life. Collectively, globalization is a long-running series of processes of increased integration. For the most part, these changes in economic, political, social, technological, and environmental domains are leading toward real material improvements in everyday life for many people in many parts of the world. Acknowledging that globalization is a long-term phenomenon, however, should not deter recognition that there is something distinctive about contemporary changes based on the speed, scale, and networked form of contemporary globalization processes.

The concept of networks is integral to understanding the emerging global food system, in part because we live in a time of networks such as the Internet, electrical power grids, and the air transit system. Networks, at the most general level, are an

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8 Id.
9 Id.
interconnection of systems that allow sharing between systems and contain regularized interactions between nodes of activity. One of the key features of networks is that they collapse distances, though not in a traditional, geometric sense. In networks, the shortest distance between two points often involves traveling through a hub, rather than directly from node to node. While networks can continue to function with the loss of some or many nodes, disruption of a hub can have a significant impact on the overall network and cascading impacts on other networks. Working through networks of trade, information, and travel, globalization is impacting many aspects of daily life in many parts of the world.

In recent decades, local, regional, and national food systems have become linked in an emerging global food network. This complex web of relations is often referred to as the food system and it includes the production, gathering, harvesting, processing, transporting, preparing, and consuming of food. However, it is vital to recognize that while food systems are increasingly interconnected, they are not a fully incorporated system in the sense of being an integrated whole. As the U.K. Government’s long range planning group, Foresight, recognizes, this food network is “not a single entity, but rather a partially self-organised collection of interacting parts.”

The networked form of global food relations is deeply significant to contemporary challenges related to the production, governance, and security of food.

The emerging geography of world food problems is deeply uneven, and the global food network is filled with pockets of both abundance and scarcity. Yet, the terrain of this landscape does not

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14 See, e.g., ROBERT GOTTLIEB & ANUPAMA JOSHI, FOOD JUSTICE (2010).
16 Id. at 13-15.
map evenly or cleanly onto any traditional models of the world such as North/South or Developed/Developing.\textsuperscript{17} The creation of this global food network has happened as the result of many decisions in a wide variety of locations including farm fields, scientific and commercial laboratories, governmental agencies, and international negotiations.\textsuperscript{18} Food insecurity is driven by a complex mix of economic, environmental, political, and social factors including: population growth, increased purchasing power and changing dietary preferences, variability and severe weather events, conflict and instability, and further integration of food systems into global financial systems.\textsuperscript{19}

The global food network operates through a vast web of goods and services to link people and places across the globe. Given this, it is a useful lens to use in examining one of the key questions in global relations at this moment: how and to what extent can ways be found to govern networks and harness them to enhance national security and advance vital national interests? Although this global food network is influenced by the actions of states, it is also transnational in the sense that it spans state borders and involves a range of actors at the state level as well as actors in international, private, and non-state sectors.\textsuperscript{20} Recent events and global trends have combined to create what Laurie Garrett recognizes as a “destabilizing moment in terms of global governance and any ability to come up with reasonable, rational ways to globalize the food supply.”\textsuperscript{21}

Examinations of food security highlight how the networks which are empowering people and bringing prosperity and improvements in health and welfare are also amplifying traditional security challenges, such as hunger and malnutrition, as well as giving

\begin{thebibliography}{9}
  \bibitem{footnote} \textbf{FOOD SECURITY, supra note 1.}
  \bibitem{footnote} \textit{Id.}
  \bibitem{footnote} \textit{Id.}
  \bibitem{footnote} Richard A. Matthew & George E. Shambaugh. \textit{Sex, Drugs, and Heavy Metal: Transnational Threats and National Vulnerabilities}, 29 SEC. DIALOGUE, 163-75 (1998).
  \bibitem{footnote} Interview by Toni Johnson with Laure Garrett, Senior Fellow for Global Health, CFR (Feb. 4, 2011), \url{http://www.cfr.org/food-security/food-prices-global-instability/p24018}.
\end{thebibliography}
rise to new vulnerabilities and new kinds of threats, such as large-scale, transnational food safety episodes.

To understand food security, it is necessary to ask not just how global change is shifting the landscape of food security threats and vulnerabilities, but also to consider how world food problems are emerging as questions that are key to global governance, prosperity, and security.

In the increasingly globalized food network, fewer people and nations produce for themselves the food they require and are increasingly dependent on the global network of food systems. Even as human societies become more urban and industrialized, agriculture and food production remain key components of local, state, national, and global economies. Recent events have resulted in a greater amount of attention being paid to food security concerns.22 There is good reason for a renewed focus on food security as lack of food security impacts billions of people on a daily basis and contributes to significant human insecurity. This section describes three sets of challenges that are converging to amplify, disrupt, and transform food security.

II. ENSURING NUTRITION

Improvements in food production and global health during the twentieth century allowed human societies to flourish through dramatic increases in global population size, life expectancy, and reductions in infant and child mortality rates. Despite these advances, malnutrition remains a widespread form of food insecurity that affects billions of people on a daily basis. Malnutrition is the collective term applied to a variety of forms of poor nutrition.23 A full discussion of malnutrition encompasses not just the classical food

22 See, e.g., Ban, supra note 3.
security problem of chronic hunger (people who do not receive sufficient energy from their diets), but also must consider problems related to people who do not receive an adequate supply of vitamins, minerals, and nutrients from their diets (micronutrient deficiencies) as well as people who have excessive net energy intake (also called overweight or obesity depending upon the severity of the condition).\textsuperscript{24} Collectively, this set of problems is often referred to as the triple burden of malnutrition.

The most commonly recognized form of malnutrition is energy deficiency or chronic hunger.\textsuperscript{25} Around the world, many people are chronically hungry because their diets do not provide enough energy for them to lead active and healthy lives.\textsuperscript{26} Events in the past few years, including a rise in global food prices and the global economic crisis, have led to dramatic increases in the number of hungry people in the world.\textsuperscript{27} The Food and Agriculture Organization of the U.N. estimates that for 2011-13 period there were 842 million people who were not getting enough food to lead active and healthy lives.\textsuperscript{28} The recent food price crisis has been especially impactful, as it has effected all parts of the world at once and thus reduced the effectiveness of international, national, and subnational aid systems and coping mechanisms.

The challenge of malnutrition also includes significant numbers of people who experience micronutrient deficiencies in their diets from a lack of key vitamins and minerals such as vitamin A, iodine, iron, zinc, and folic acid. For example, fifteen percent of people in the world lack adequate iodine, more than forty percent of children under five in the developing world have compromised immune systems as a result of a deficiency of vitamin A, and iron deficiency reduces the health and productivity of forty percent of

\textsuperscript{24} Id. at 187-98.
\textsuperscript{26} Id.
\textsuperscript{27} Id.
\textsuperscript{28} Id. at 8.
people in the developing world.\textsuperscript{29} Less a problem of food availability, micronutrient deficiency is a problem of diet. “Throughout the developing world, the poor live mostly on a monotonous regime of starchy staples to which small quantities of more nutritious foods are added as money and availability allow.”\textsuperscript{30} While staple foods such as wheat, rice, corn, or millet provide energy (calories), they do not on their own provide enough vitamins and minerals for a healthy diet.\textsuperscript{31}

Finally, malnutrition also involves excessive net-energy intake. More and more people are consuming diets composed of energy-dense, nutrient-poor foods while also transitioning to lifestyles that involve lower levels of physical activity than in the past. This global “nutrition transition” means that many nations are now not only confronted by undernutrition, but also by rising rates of overweight and obesity.\textsuperscript{32} In the United States, obesity rates have increased significantly over a relatively brief period of time. In 1990, no U.S. state had a prevalence of obesity in the adult population greater than fifteen percent.\textsuperscript{33} By 2012, no state had a prevalence of obesity less than twenty percent, while thirteen states had a prevalence of obesity equal to or greater than thirty percent.\textsuperscript{34} Overweight and obesity are not just problems impacting developed countries. For example, a 2014 report from the Overseas Development Institute found that prevalence of overweight and obesity in developing countries has increased more than threefold since 1980, from 250 million to more


\textsuperscript{31} \textit{Id.} at 4-5; \textit{See also Repositioning Nutrition as Central to Development, supra note 29.}

\textsuperscript{32} \textit{Repositioning Nutrition as Central to Development, supra note 29, at 24.}

\textsuperscript{33} U.S. Centers for Disease Control and Prevention, \textit{Adult Obesity Facts} (Sep. 9, 2014), \url{http://www.cdc.gov/obesity/data/adult.html}.

\textsuperscript{34} \textit{Id.}
than 900 million people.\textsuperscript{35} Overweight and obesity have a number of health consequences, including increased incidences of chronic diseases such as type-2 diabetes, cardiovascular disease, and hypertension.\textsuperscript{36} Discussions about overweight and obesity may be difficult, as they touch on deeply personal issues such as diet, family eating patterns, exercise, and genetic predispositions. However, such discussions, as well as structural changes to improve access and information about food, are vitally important to the health and security of states and people.

III. OPTIMIZING FOOD SAFETY

Concerns about food safety, like many other challenges to global health and security, have become more complex as a result of globalization. The establishment of interconnected food systems that link many people and places began long ago as desire for spices, foods, and goods encouraged the establishment of trade routes. In recent decades, however, advances in transportation and communication have enhanced the speed and scale of global interactions. Like many global systems, from the air transit system to mail and cargo systems, the food system has been transformed by globalization. The modern global food network is designed to move perishable goods rapidly from producers to consumers. Linking local, national, and global food systems has provided tremendous benefits to consumers in terms of availability, variety, and pricing of food. The results of greater connectivity, however, have not been entirely positive.

While the global food network largely provides safe and healthful food, it can also be a means for transmitting threats to human health. The challenge of optimizing food safety involves ensuring that food supplies remain free from threats to human


health—whether from natural or accidental contamination, such as incidents of contaminated spinach, pet food, milk, peanut butter, and eggs—and also in preventing actors with nefarious intent from using networked food systems to intentionally cause harm (a set of concerns often discussed as food defense). Contamination of food supplies by infectious diseases or chemical hazards can have significant health impacts. Illness and contamination of crops, livestock, and food supplies can also have a significant impact on the cost and availability of food.37

There are multiple ways that food can be impacted by health threats or contamination: crops or animals can be sickened by viruses, fungi, or other microbial threats (such as wheat stem rust or potato blight); food can carry a disease from sick animals to human consumers (such as bovine spongiform encephalopathy/Mad Cow Disease); food may be accidentally contaminated (such as E. coli infections in spinach and ice cream); humans can infect a food supply by moving into marginal areas or eating marginal foods (such as the believed transmission pathway of the SARS coronavirus passing from bats to civets to humans); or food can be intentionally contaminated with diseases or toxins (such as the 1984 contamination of salad bars in The Dalles, Oregon).38

Despite national and international efforts to improve food safety, foodborne illness remains a significant area of concern. The globalization of food systems, along with the intensification and increased centralization of agriculture and food industries, has created conditions favorable to the spread of contaminants and known diseases as well as the emergence of new forms of diseases. For example, a 2010 U.S. Government Accountability Office review found that while sixty percent of fresh fruits and vegetables and eighty percent of seafood come from outside U.S. borders, the Food and Drug Administration is able to physically inspect only one

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37 FOOD SECURITY, supra note 1.
38 Id.
percent of imported food.\textsuperscript{39} The increasing speed and scale of connections between nodes in the global food network means that when problems do develop, they are often widespread and cause illness or death in large numbers of people. In part, food safety threats have such large potential impacts because they can be so rapidly and efficiently diffused via the normal operation of the global food network.

IV. MANAGING GLOBAL ENVIRONMENTAL CHANGE

The ways in which people satisfy their need for food—such as gathering, hunting, farming, fishing, and raising livestock—are significant contributors to the impacts that human populations have on the environment. Agriculture and food production are significant drivers of environmental impacts on land and soil, water use and water quality, and components of large-scale environmental changes such as climate change. Production of food and fiber accounts for seventy percent of water withdrawals and is responsible for thirty percent of greenhouse gas (GHG) emissions.\textsuperscript{40} Globally, agriculture consumes more water (including virtual water that is transported in food) than any other industry and is also the primary source of nitrate and ammonia pollution.\textsuperscript{41} Agricultural practices drive environmental changes such as land clearance, land degradation, increased salinization of soils, stresses on water resources, impacts on water quality from agricultural runoff, and the development of antibiotic-resistant microbes.\textsuperscript{42} In seeking to understand the dynamics of global

\textsuperscript{39} Government Accountability Office, Food Safety: FDA Has Begun to Take Action to Address Weaknesses in Food Safety Research, but Gaits Remain 10 (Apr. 23, 2010), \url{http://www.gao.gov/new.items/d10182r.pdf}.


\textsuperscript{41} Food and Agriculture Organization of the U.N., World Agriculture: Towards 2015/2030 (2003), \url{http://www.fao.org/docrep/004/Y3557E/Y3557E03.htm#c}.

change, it is vital to recognize that agricultural and food production systems are linked in a series of feedback loops wherein food systems drive environmental changes which in turn impact food systems and leads to further environmental changes and so on.

Collectively, food production activities have had significant, though often unintentional, impacts on the global environment. Environmental changes are often localized, such as cutting down or burning forests to create croplands. The impacts of such changes are often local as well, such as increased erosion of topsoil, loss of soil nutrients, and reducing water quality when siltation and agricultural runoff enter waterways. However, local changes can aggregate to have regional and national impacts that contribute to problems such as toxic dead zones in rivers and oceans, desertification, and global climate change. During the twentieth century, agricultural production came to increasingly rely on mechanization and synthetic chemical inputs including fertilizers, insecticides, and pesticides, as well as scientific techniques to measure soil fertility, acidity, and aid in making adjustments to the nutrition and care of livestock. These developments led to significant increases in productivity, but also resulted in a number of unintended consequences such as pests developing resistance to pesticides and herbicides, and negative impacts on land, water, habitat, and biodiversity.

In response to the negative unintended consequences of agricultural intensification—as well as concerns about reductions in productivity gains and rising demands for food—a number of efforts have recognized the need to amplify the positive benefits of intensified agricultural production while minimizing its negative environmental effects. Managing environmental change in food and agricultural production involves a number of efforts to shift from a vicious cycle of food system-induced environmental degradation by harmonizing food and agricultural production with the imperatives of sustainable development to create a virtuous cycle that enhances

environmental quality and ensures food security. A global food network optimized around the goal of sustainability could help boost soil fertility and reduce erosion, improve local water quality, reduce runoff, and aid in efforts to mitigate and adapt to climate change by providing buffer zones, sinks to remove greenhouse gases from the atmosphere, and energy from current biological sources to reduce GHG emissions.

V. SUSTAINABILITY, RESILIENCE AND WORLD FOOD PROBLEMS

This article provided an overview of the ways that processes of global change have problematized efforts to ensure that all people have the food they need to live active and healthy lives. A key insight that emerges from this analysis is that food security issues—such as malnutrition, food safety, and global environmental change—must be understood as multi-causal and multidisciplinary challenges. It is also vital to underscore that these core challenges are not separate domains of concerns, but rather are interactive areas of operations. Environmental degradation from climate change, for instance, may increasingly cause humans to seek food sources in marginal areas, thus bringing them into contact with new diseases and increasing their impacts on habitats and species. In addition, widespread malnutrition may weaken a population’s resistances to disease, thus making them more vulnerable to the impacts of food-borne illness. Understanding the complex, multi-causal, and interactive nature of these food security challenges identifies important solution sets and reveals the need for better coordination between often-disparate efforts to address core drivers that contribute to food insecurity.

Gaining a better sense of the causes of food insecurity opens up a range of solutions that encompass far more actions than just efforts to intensify agricultural productivity. Ensuring food security will require improving the productivity and efficiency of global agriculture while also reducing the environmental impacts of food production.\(^{45}\) Yet, food security also involves confronting social,

ethical, economic, and political questions about how food is grown, produced, and consumed. Taking a broad view of the changing food security landscape reveals how each of the sets of concerns discussed here are components of a fundamental question: how do we grow a global food network that is ethically, economically and environmentally sustainable, but is also sensitive to and resilient against converging security threats and vulnerabilities?

In the coming decades, efforts to ensure food security will need to utilize the full range of national capabilities from the state, private, and non-state sectors to confront world food problems. Solutions to food insecurity must come through strategies that are sustainable both for human societies and for the environment on which they rely. A second key goal for food systems is to develop resilience: the ability to absorb and recover from adverse events, whether such events are economic, political, or environmental (or perhaps even a convergence of crises that cascade to have amplified negative effects). As discussed above, while food security is an increasingly global issue, perhaps the key defining feature of the emerging network of global food systems is the lack of a centralized governing authority to systematically govern activities. Growing a sustainable and resilient global food network will also require improving understandings of the changing role of authority and actors in global governance.  46 Significant amounts of energy, ingenuity, and effort have been applied to global efforts to ensure food security.  47 Moving forward, there is a need to find ways to enhance efforts in order to effectively address the interactive sets of threats and vulnerabilities that impact the well-being, prosperity, and security of people and nations.

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WORLD POVERTY AND FOOD INSECURITY

Carmen G. Gonzalez*

Our present global economic order produces a stable pattern of widespread malnutrition and starvation among the poor, with some eighteen million persons dying each year from poverty-related causes, and there are likely to be feasible alternative regimes that will not produce similarly severe deprivations. If this is so, the victims of avoidable deprivations are not merely poor and starving, but impoverished and starved through an institutional order coercively imposed upon them. There is an injustice to this economic order, which it would be wrong for its more affluent participants to perpetuate.¹

INTRODUCTION

The suffering of the world’s poor and undernourished is due not simply to the failure of Western liberal democracies to provide sufficient economic aid, but to international political and economic arrangements that systematically benefit the wealthy and disenfranchise the poor. As Yale philosopher Thomas Pogge acknowledges in his ground-breaking book on world poverty, the

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* Carmen C. Gonzalez, Professor of Law, Seattle University School of Law. This essay is based on the author’s remarks at the symposium on global resource scarcity organized by the Penn State Journal of Law and International Affairs. The author would like to thank the organizers of the symposium for facilitating thought-provoking dialogue on this important topic among legal scholars, practitioners, government officials, and representatives of industry.

¹ Thomas Pogge, WORLD POVERTY AND HUMAN RIGHTS, 182 (2nd ed. 2008).
deprivation suffered by the world’s most vulnerable populations is often the direct and foreseeable consequence of an unjust global institutional order maintained by affluent countries in collusion with the ruling elites of poor countries. We can end poverty and hunger, Pogge maintains, not simply by financial transfers to poor countries, but by restructuring the global economic order to “lighten the huge burdens we impose on the people of those countries.”

This article examines some of the laws, policies and practices that perpetuate chronic undernourishment in developing countries and sets forth key reforms that wealthy countries could enact to ameliorate global inequities and enhance food security. Consistent with Pogge’s insights, the objective is to lay bare the underlying structural causes of food insecurity in order to address the root causes of the problem and not merely the immediate manifestations. The article proceeds in four parts. Part I defines food security and identifies the world’s food insecure populations. Part II discusses the role of aid, trade, and financial institutions in perpetuating chronic undernourishment in developing countries. Part III discusses the challenges to food security posed by climate change, financial speculation in agricultural commodity markets, biofuels production, and large-scale acquisitions of agricultural land in developing countries. Part IV sets forth concrete measures that wealthy countries can take to reduce poverty and food insecurity.

I. THE CONTOURS OF GLOBAL FOOD INSECURITY

The United Nations Food and Agriculture Organization (FAO) defines food security as “physical and economic access to sufficient safe and nutritious food that meets... dietary needs and

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2 See id. at 7-32; see generally Thomas Pogge, Severe Poverty as a Violation of Negative Duties, 19 ETHICS & INT’L AFF. 55 (2005).
3 WORLD POVERTY AND HUMAN RIGHTS, supra note 1, at 9.
food preferences for an active and healthy life.”

According to the FAO’s most recent estimates, 842 million people did not consume enough calories to meet their dietary energy requirements in 2011-2013—a figure that represents one out of eight of the world’s people. In addition, an estimated two billion people suffer from deficiencies of one or more essential micronutrient, and twenty-six percent of the world’s children are stunted (fail to attain normal height and weight) as a consequence of undernourishment.

According to the United Nations Department of Economic and Social Affairs, the world’s population (which is currently 7.2 billion) is expected to reach 9.6 billion in 2050 and 10.9 million in 2100. However, we currently produce sufficient food to feed a global population of twelve to fourteen billion people. Enough food is available to supply every person on the planet with approximately 2700 calories per day.

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10 See Jean Ziegler et al., The Fight for the Right to Food: Lessons Learned 3 (2011).
Food insecurity is caused by poverty rather than food scarcity. As Nobel laureate Amartya Sen has compellingly demonstrated, food insecurity is a function of food distribution, not food production.\(^1\) Nearly one billion people experience chronic undernourishment because they lack the purchasing power to obtain food on the market, or the land and agricultural inputs to grow the food they need.\(^2\) Thus, contrary to popular misconception, increasing food production through technological innovation is not sufficient to address food insecurity. We will not end hunger unless we redouble our efforts to reduce social and economic inequality.\(^3\)

In order to properly target policies and programs designed to combat undernourishment, it is essential to keep in mind that the planet’s food insecure populations are overwhelmingly rural. Approximately eighty percent of the world’s chronically undernourished people are rural dwellers in developing countries who cultivate at least seventy percent of the world’s food.\(^4\) The vast majority are small farmers who are net food purchasers because they have been relegated to plots of land that are too small, arid, hilly, or inadequately irrigated due, in part, to competition for land and water from large-scale agricultural producers.\(^5\) The ranks of the rural

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3. See Rebecca M. Bratspies, Food, Technology and Hunger, 8 L. CULTURE & THE HUMAN 1, 9-13 (2012) (dispelling the myth that “heroic technological interventions” are necessary to increase food production and end world hunger).
5. See Olivier de Schutter, How Not to Think of Land-Grabbing: Three Critiques of Large-Scale Investments in Farmland, 38(2) J. PEASANT STUDIES 249, 256 (2011)
malnourished also include pastoralists, fisherfolk, and landless workers (including children) who earn less than subsistence wages.  

The livelihoods of these rural dwellers have been and continue to be undermined by misguided aid, trade and development policies, and by large-scale land acquisitions that benefit wealthy nations and transnational corporations at the expense of the poor. They are also threatened by climate change, which will depress food production in major agricultural regions, increase food prices, and reduce the productivity of the world’s fisheries. Indeed, the most recent report of the Intergovernmental Panel on Climate Change (IPCC) paints a grim picture of the future, warning that climate change could result in the breakdown of food systems unless the world’s governments rapidly end their dependence on fossil fuels. The following sections examine the underlying causes of global food insecurity with an emphasis on their impact on small farmers in developing countries.

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16 See id. at 256-57.
II. THE ROLE OF AID, TRADE, AND FINANCIAL INSTITUTIONS

In the decades following the Second World War, the United States and nations of Western Europe provided generous subsidies to their agricultural producers, and imposed both tariff and non-tariff import barriers to protect these producers from foreign competition. By contrast, most developing countries taxed the agricultural sector to finance industrialization. The U.S. and European subsidies and import barriers were generally permissible under the 1947 General Agreement on Tariffs and Trade (GATT), which generally exempted agriculture from the GATT’s trade liberalization obligations.

The agricultural subsidies, along with mechanization and the application of chemical fertilizers and pesticides, resulted in overproduction and declining food prices in wealthy countries. The United States responded to this crisis of overproduction by disposing of its surplus food overseas at reduced prices or free of charge as food aid. Ironically, the sale or delivery of cheap food as aid to developing countries exacerbated food insecurity by depressing local food prices and undermining the livelihoods of small farmers.

Until the debt crisis of the 1980s, developing countries could insulate their farmers from unfair competition with highly subsidized food products from the United States and Europe by imposing tariffs on these products. This policy space was quickly eroded by the loan conditions imposed by the World Bank and the International

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21 See THE GATT URUGUAY ROUND, supra note 20, at 154-57; Aksoy, supra note 20, at 37.

22 See Institutionalizing Inequality, supra note 12, at 440-46.

23 See generally THE OVERPRODUCTION TRAP IN U.S. AGRICULTURE (Glenn Johnson & C. Leroy Quance eds., 2011).

Monetary Fund (IMF) in response to the inability of many developing countries to service the foreign debt. Lured into borrowing money from commercial banks to finance often ill-advised development projects, many developing countries found themselves unable to pay their debts when the oil price shocks of 1973 and 1979-1980 increased energy costs and sent interest rates skyrocketing. To secure debt relief from the IMF and World Bank, three quarters of Latin American countries and two-thirds of African countries acceded to loan conditions that required them to adopt structural adjustment programs overseen by the IMF and World Bank to guarantee debt repayment.

The structural adjustment programs mandated by the IMF and World Bank created double standards that afflict international agricultural trade to this day: protectionism in wealthy countries and open markets in poor countries. These structural adjustment programs required developing countries to adopt a standard package of neoliberal economic reforms, including lowering tariffs, eliminating non-tariff import barriers, and slashing government subsidies to the agricultural sector (such as input subsidies, marketing assistance, social safety nets, and agricultural research and education). U.S. and European agricultural producers, however, continued to receive lavish agricultural subsidies from their governments and benefitted handsomely from the structural adjustment-induced opening of additional export markets in developing countries.

The reduction of support to small farmers in developing countries, coupled with the elimination of import barriers,
bankrupted small farmers and increased food insecurity by putting resource-poor local farmers in direct competition with highly subsidized agricultural producers from Europe and the United States.\textsuperscript{30} The influx of cheap imported U.S. and European food devastated rural livelihoods, depressed food production in developing countries, and generated a wave of migration to urban slums.\textsuperscript{31} To make matters worse, the IMF and World Bank required developing countries to increase agricultural exports to generate revenue to service the foreign debt.\textsuperscript{32} The diversion of land from food production to cash crop production reduced food self-sufficiency in developing countries and increased their dependence on food imports. Far from enhancing foreign exchange earnings with which to purchase these food imports, the drive to increase cash crop production “depressed the export earnings of developing countries by glutting world markets with competing export commodities from multiple debtor nations.”\textsuperscript{33}

The World Trade Organization (WTO) Agreement on Agriculture (AoA) professed to ameliorate the double standards in global agricultural trade and to “establish a fair and market-oriented agricultural trading system.”\textsuperscript{34} The AoA required WTO members to reduce trade-distorting agricultural subsidies, convert all import barriers to tariffs (a process known as “tariffication”), and to reduce these tariffs over time.\textsuperscript{35}

The AoA, however, was riddled with ambiguities that enabled wealthy countries to continue to subsidize their agricultural producers while requiring market openness in developing countries.\textsuperscript{36} Since most developing countries had already liberalized their markets pursuant to structural adjustment programs, the impact of the AoA

\begin{itemize}
  \item See id.
  \item See id. at 469-70.
  \item See id. at 469.
  \item See id. at 469.
  \item See Institutionalizing Inequality, supra note 12, at 450-56.
  \item See id. at 459-68.
\end{itemize}
was to preclude these countries from adopting these subsidies in the future beyond *de minimis* levels.  

Agricultural subsidies in the United States and European Union, however, actually increased in the aftermath of the AoA. First, the baseline against which domestic subsidy reduction commitments was measured was a period of very high agricultural subsidies in the United States and Europe, thereby enabling the United States and the European Union to maintain their subsidies without running afoul of the AoA. Second, the United States and European Union evaded their subsidy reduction obligations by re-classifying trade-distorting subsidies (so-called “amber box” subsidies, which were subject to reduction) as subsidies that were authorized by the agreement (so-called “blue box” and “green box” subsidies). Finally, export subsidies remained high in the United States and European Union because these countries simply used devices not expressly prohibited by the AoA (such as subsidized credit) to promote export production.

The AoA requirement with respect to tariffication did not open up U.S. and E.U. markets for the benefit of developing country exporters, but did succeed in restricting the ability of developing countries to raise tariffs when confronted with surges of cheap, subsidized agricultural products. Because the AoA did not specify how to convert non-tariff import barriers into tariffs, most developed countries adopted tariffs that were far more import-restrictive than the non-tariff barriers they replaced—thereby maintaining their markets relatively closed to developing country exporters. By contrast, most developing countries did not engage in tariffication at all because they had already eliminated their non-tariff barriers (and reduced their tariffs) pursuant to IMF/World Bank-mandated structural adjustment programs. While the AoA gave WTO...

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37 See *id.* at 479.
38 See *Markets, Monocultures, and Malnutrition*, supra note 24, at 366.
39 See *Institutionalizing Inequality*, supra note 12, at 463-64.
40 See *id.* at 463-65.
41 See *id.* at 462-63.
42 See *id.* at 458-61, 476-77.
43 See *id.* at 458.
44 See *id.* at 476.
members the right to impose additional tariffs to protect domestic farmers from unusually low import prices or surges in the volume of imports (known as “special safeguard measures” or “SSG”), the SSG was only available to countries that had engaged in tariffication. Thus, most developing countries were deprived of an essential tool to protect food security and rural livelihoods against ruinous surges in cheap, subsidized food from the United States and European Union.

In sum, while the AoA did not create the double standards in international agricultural trade that systematically disfavor small farmers in developing countries, it did reinforce these inequities by permitting protectionism in wealthy countries while promoting market openness in poor countries. These double standards have enabled agricultural producers in the United States and European Union to destroy the livelihoods of small farmers in developing countries by dumping agricultural products on world markets at prices that are lower than the local cost of production. Over the course of a few decades, developing countries that were once net food exporters have been transformed into net food importers and are now being devastated by soaring food prices.

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45 See id. at 477.
III. CLIMATE CHANGE, FINANCIAL SPECULATION, BIOFUELS, AND THE GLOBAL LAND RUSH

Small farmers in developing countries are currently facing additional challenges to food security stemming from climate change, financial speculation in agricultural commodity markets, biofuels production, and large-scale acquisitions of agricultural land. The collapse of the housing market in the United States in 2007 resulted in a shift of speculative investment into agricultural commodities, and contributed significantly to the 2008 global surge in food prices.\(^{49}\) This influx of speculative investment was set in motion by the deregulation of Over the Counter (OTC) derivatives following the passage of the U.S. Commodity Futures Modernization Act in 2000.\(^{50}\) This statute and the subsequent decisions of the Commodity Futures Trading Commission exempted OTC derivatives (including commodity index funds) from regulatory oversight.\(^{51}\) The failure of governments to curb speculation in agricultural commodity markets increases market volatility and poses serious risks to food security.\(^{52}\)

Food security is also imperiled by climate change, which will depress global food production by increasing the severity and frequency of storms, droughts, and floods; reduce the productivity of


\(^{50}\) See Olivier de Schutter, *Food Commodities Speculation and Food Price Crises: Regulation to Reduce the Risks of Price Volatility* 5 (Sept. 2010) [hereinafter Food Commodities Speculation], http://www2.ohchr.org/english/issues/food/docs/Briefing_Note_02_September_2010_EN.pdf.

\(^{51}\) See id. at 5-6.

\(^{52}\) See Wahl, *supra* note 49, at 75-76.
global fisheries; and exacerbate water scarcity. Climate change is projected to diminish agricultural yields by as much as nineteen percent in Asia, twenty-four percent in Latin America, and twenty-eight percent in Africa by 2080. Climate change will also hasten the worldwide loss of biodiversity and ecosystem services vital to food production.

Despite their negligible greenhouse gas (GHG) emissions, the world’s poorest countries will be disproportionately affected by climate change as a consequence of their vulnerable geographic locations, agriculture-based economies, and limited resources for adaptation and disaster response. Poor farmers with limited access to water and productive land will likely suffer the most severe consequences.

Ironically, agriculture is also one of the primary contributors to climate change—responsible for one third of global anthropogenic GHG emissions. The Consultative Group on International Agricultural Research (CGIAR), a consortium of fifteen agricultural

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55 See Nyong, supra note 53, at 50-51.
research centers across the world, has urged policy-makers to reduce agriculture’s carbon footprint in order to mitigate climate change.\(^5\)

Although industrial agriculture is one of the most significant contributors to climate change, small-scale sustainable agriculture can enhance climate change mitigation and adaptation.\(^6\) Sustainable agriculture or agroecology incorporates natural pest, nutrient, soil, and water management technologies into the production process while reducing reliance on synthetic fertilizers and pesticides.\(^7\) It contributes to climate change mitigation by minimizing fossil fuel-based agricultural inputs and increasing carbon sequestration in soils.\(^8\) It also plays a significant role in climate change adaptation because it enhances resilience to drought, floods, and pests by diversifying the variety of crops cultivated and by increasing the soil’s organic matter and water retention ability.\(^9\)

There is a growing consensus among scientists and policy-makers that a transition to sustainable agriculture is essential if we are to address the climate crisis and the lack of access to sufficient, affordable food in developing countries.\(^10\) In 2013, the U.N.

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9. See id.
Conference on Trade and Development (UNCTAD) published a major report urging a paradigm shift in agriculture—away from industrial agriculture and toward sustainable, regenerative production systems that enhance the productivity of small-scale farmers. This report echoes the conclusions of an earlier interdisciplinary assessment of agriculture conducted by the United Kingdom Government Office for Science with the participation of scientists and stakeholders from all over the world. The assessment’s conclusion—simply put—is as follows: “Addressing climate change and achieving sustainability in the global food system need to be recognized as dual imperatives. Nothing less is required than a redesign of the whole global food system to bring sustainability to the fore.”

Sustainable agriculture can increase agricultural productivity in precisely those countries and regions where it has lagged while protecting the environment and enhancing the livelihoods of small, resource-poor farmers. Sustainable agriculture has produced significant increases in agricultural yields in Asia, Africa, and Latin America while enhancing environmental quality, reducing dependence on external inputs, and protecting the traditional agroecological knowledge of small farmers and indigenous communities.


65 See WAKE UP BEFORE IT’S TOO LATE, supra note 9.


67 Id. at 12 (Box 1.3, no. 2).

68 See WAKE UP BEFORE IT’S TOO LATE, supra note 9, at 34.

Regrettably, policy-makers in the United States and European Union have exacerbated global food insecurity by embracing biofuels to address climate change rather than promoting the transition to sustainable agriculture—a policy that has driven up food prices and reduced production of other food crops.\(^7^0\) In addition to undermining food security, the production of certain biofuels may result in greater greenhouse emissions than conventional fossil fuels. Most scientific studies question the net carbon benefits of the vast majority of biofuels.\(^7^1\) Corn-based ethanol is a particularly egregious example. In the United States, the GHG emissions required to produce corn ethanol (including the emissions resulting from


cultivating corn and processing it into corn starch) actually exceed fossil fuel emissions by more than ten percent.\footnote{See U.N. ENV’T PROGRAMME, TOWARDS SUSTAINABLE PRODUCTION AND USE OF RESOURCES: ASSESSING BIOFUELS 67-68 (2009), http://www.unep.fr/scp/tpoprogramme/pdf/Assessing_Biofuels_Full_Report.pdf.}

Climate change, the biofuels boom, and rising food prices have given rise to yet another threat to food security: an explosion of large-scale land leases or purchases in developing countries on terms that are generally not beneficial to those who currently live on or use the land.\footnote{See generally Ward Answeeuw et al., Land Rights and the Rush for Land: Findings of the Global Commercial Pressure on Land Research Project (2012), http://www.landcoalition.org/sites/default/files/publication/1205/ILC%20GSR%20report_ENG.pdf; Lorenzo Cotula et al., Land Grab or Development Opportunity? Agricultural Investment and International Land Deals in Africa (2009), http://www.ifad.org/pub/land/land_grab.pdf; Alexandra Spieldoch & Sophia Murphy, Agricultural Land Acquisitions: Implications for Food Security and Poverty Alleviation, in LAND GRAB? THE RACE FOR THE WORLD’S FARMLAND 39, 39 (Michael Kugelman & Susan L. Levenstein eds., 2009), http://www.wilsoncenter.org/sites/default/files/ASIA_090629_Land%20Grab rpt.pdf [hereinafter LAND GRAB?].} Despite the lack of systemic data regarding these land transactions, a report by the International Land Coalition, a consortium of forty grassroots and civil society organizations, estimates that an area eight times the size of the United Kingdom or nearly the size of Western Europe was transferred between January 2000 and November 2011.\footnote{See Answeeuw, supra note 73, at 23; The International Land Coalition (ILC) has since revised this figure. According to the ILC’s database, the amount of land transferred or under negotiation is approximately fifty-one million hectares—far less than the original estimate, but nevertheless significant. See The Online Public Database on Land Deals, LAND MATRIX, http://landmatrix.org/en/ (last accessed June 13, 2014).} Africa appears to be the primary target of these land acquisitions.

These so-called land grabs have been driven by three primary actors: 1) corporate investors eager to capitalize on the growing demand for biofuels; 2) foreign investors speculating on the value of the land; and 3) middle-income developing countries (such as Saudi Arabia, Qatar, China, India, and South Korea) seeking to produce
food abroad to safeguard access to food supplies in light of food price volatility on international markets and domestic shortages of arable land and irrigation water.\textsuperscript{75}

These transactions pose serious risks to resource-poor farmers in the targeted developing countries, including interference with local food production; contamination, depletion, or diversion of local water supplies; and eviction of those whose livelihoods depend on access to these lands and resources.\textsuperscript{76} For example, small farmers, pastoralists, and fisherfolk whose property rights are not recognized by government officials may be dispossessed by foreign investors or by local elites eager to sell or lease these lands to foreign investors.\textsuperscript{77} The displacement of labor-intensive subsistence farming by export-oriented chemical-intensive industrial agriculture may reduce food availability in the local market, intensify poverty by eliminating rural jobs, contaminate the local water supply with pesticide and fertilizer runoff, deplete the land through intensive cultivation, and divert or exhaust water resources needed by local communities.\textsuperscript{78}

International investment law is deeply implicated in the threats to food security posed by the global land rush. Absent any international contracts or treaties, foreign investors would generally be treated like domestic investors under national law.\textsuperscript{79} However, host state government agreements (HGAs) (i.e. contracts between the foreign investor and the host state) as well as bilateral investment treaties (BITs) between the host state and the foreign investor will typically give the foreign investor additional rights and benefits not

\textsuperscript{75} See Kugelman, LAND GRAB?, supra note 73, at 2; Spieldoch & Murphy, supra note 73, at 41-42; Answeeuw, supra note 73, at 21.

\textsuperscript{76} See Spieldoch & Murphy, supra note 73, at 43-48.

\textsuperscript{77} See Raul Q. Montemayor, Overseas Farmland Investments- Boon or Bane for Farmers in Asia? in LAND GRAB?, supra note 73, at 101-02; The Green Rush, supra note 17, at 537.

\textsuperscript{78} See Ruth Meinzen & Helena Marklova, LAND GRAB?, supra note 73, at 74; Montemayor, supra note 77, at 102-05; Spieldoch & Murphy, supra note 73, at 46-47.

guaranteed to the local population, including land and water rights, tax incentives, and the right to export the agricultural commodities produced.\textsuperscript{80} As the World Bank has recognized, deficiencies in the domestic legislation of many developing countries, combined with limited enforcement capacity, may jeopardize the rights of local communities.\textsuperscript{81} In the absence of strong domestic legislation, the rights of the foreign investor under the HGAs and BITs will likely trump those of local stakeholders.\textsuperscript{82}

The HGA will generally establish the legal framework for the investment, including the price, amount and location of the land, duration of the purchase or lease, law applicable to the investment, and dispute resolution mechanism.\textsuperscript{83} Many HGAs also contain so-called “stabilization” clauses that obligate the host state to compensate the foreign investor for any economic losses incurred due to the host state's modification of the regulatory framework applicable to the investment.\textsuperscript{84} This provision essentially “freezes” the law applicable to the investment, and may discourage host states from adopting measures to protect human rights and the environment, such as reallocating water rights to ensure that local communities have sufficient water for drinking, cooking, bathing, sanitation and irrigation; restricting food exports at times of critical

\textsuperscript{80} See id.
\textsuperscript{83} See id. at 4.
food shortages; and enhancing labor and environmental standards as the country’s regulatory framework evolves.  

BITs between the host state and the investor’s home state provide additional protections to the foreign investor beyond those contained in the HGA. Standard BIT requirements include national treatment; the prohibition against expropriation without compensation; fair and equitable treatment (also known as international minimum standards of treatment); the right to export the products produced; and the investor-state arbitration mechanism, which authorizes the foreign investor to commence arbitration against the host state in the event of a breach of the BIT.  

These provisions may impair the ability of the host state to protect the human rights of its citizens. For example, the national treatment requirement obligates the host state to provide no less favorable treatment to foreign investors than domestic investors “in like circumstances.” If an arbitration tribunal concludes that large-scale foreign-owned commercial farming operations and small-scale subsistence farmers are “in like circumstances,” then the host state may be precluded from providing subsidies or tax preferences to small-scale producers without making these available to all agricultural enterprises. Furthermore, the fair and equitable treatment requirement obligates the host state to honor the “legitimate expectations” that may arise from the HGA or other government commitments. If the HGA is silent on the issue of water rights, an arbitration tribunal might determine that the investor’s “legitimate expectation” of water for irrigation overrides the current or future needs of the local community for potable water, small-scale farming, and other uses. If the host state reallocates water rights to fulfill the needs of its citizens, the foreign investor

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85 See FOREIGN LAND PURCHASES FOR AGRICULTURE, supra note 82, at 3-4.
87 See id. at 11.
88 See id.
89 See id. at 12.
90 See FOREIGN LAND PURCHASES FOR AGRICULTURE, supra note 87, at 3.
may be entitled to compensation. Finally, the right to export agricultural products could likewise require the host state to compensate the foreign investor if the host state imposes export restrictions to address domestic food shortages—even if these export restrictions are otherwise permissible under international trade law.

In short, industrialized countries have reinforced the structural inequities in the global economic order that produce food insecurity by failing to curb speculation in agricultural commodity markets, adopting misguided biofuels policy, and imposing investment agreements that benefit the foreign investor at the expense of the local population in developing countries. The final section of this article discusses several steps that the United States and European Union might take to address these inequities.

IV. RESTRUCTURING AN UNJUST GLOBAL ECONOMIC ORDER

While a complete list of measures to eliminate food insecurity in developing countries is beyond the scope of this paper, there are six key steps that affluent countries can take to relieve the misery that the global economic order has inflicted on small farmers in developing countries.

A. Policy Space for Development in the Agricultural Trade Regime

Eliminating trade-distorting agricultural subsidies is a necessary first step toward addressing the double standards in international agricultural trade that perpetuate food security in developing countries, but it is not sufficient. Even if the agricultural subsidies in the United States and European Union are eliminated, small farmers in developing countries will not be able to compete with agricultural producers in wealthy and middle-income countries.

92 See FOREIGN LAND PURCHASES FOR AGRICULTURE, supra note 87, at 4.
whose yields per hectare are higher due to better infrastructure, mechanization, economies of scale, and access to credit and technology. In addition, market prices will continue to favor large-scale industrial agriculture because markets fail to internalize the environmental consequences of chemical-intensive, fossil fuel-dependent agriculture or take into account the environmental benefits of small-scale sustainable agriculture.

Trade agreements and the policies and programs of the IMF and World Bank should give developing countries the “policy space” necessary to re-invest in the agricultural sector after decades of destruction and neglect. Developing countries should be permitted to utilize an appropriate combination of subsidies and import barriers to protect the livelihoods of small farmers, restore and revitalize domestic food production, and promote sustainable agricultural practices.

Historically, countries in the early stages of industrialization have protected their agricultural sectors by using a wide array of instruments, including non-tariff barriers, subsidies for agricultural inputs, rural infrastructure projects, subsidized credit, government-financed agricultural research, and state marketing boards to stabilize prices for both producers and consumers.93 Yet the AoA currently prohibits most of these policies.

Public food reserves, for example, are an important mechanism to reduce food price volatility and ensure a secure supply of food in the event of price shocks or shortages.94 The existing WTO rules, however, treat the acquisition of food reserves as part of

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Instead of resisting the efforts of developing countries to protect food security, the United States and European Union should reverse the harm that trade liberalization has wrought by eliminating the double standards in global agricultural trade and creating a more enabling institutional environment for the achievement of food security.

B. Investment in Sustainable Agriculture in Developing Countries

Beyond creating policy space for development, it is essential that industrialized country governments, private philanthropies, international institutions, and developing country governments re-direct resources to the agricultural sector, prioritize domestic food production, and encourage a transition to sustainable agriculture. The global food price spike of 2008 did result in greater investment in agriculture in developing countries, but much of that investment...
was designed to increase agricultural productivity based on conventional fossil-fuel dependent industrial production. This emphasis on additional production is misguided in light of the fact that one-third of the food produced for human consumption is lost due to inadequate rural infrastructure and access to markets (primarily in poor countries), or is discarded due to oversupply or consumer over-reaction to “best-before dates” (primarily in affluent countries). Investments in rural infrastructure in developing countries (such as roads and storage facilities) could significantly reduce post-harvest food losses and reduce the pressure that agricultural production places on land, water, climate and biodiversity. However, such investments will only improve food security if they enhance local access to food by boosting the income and strengthening the livelihoods of small farmers.

As Olivier de Schutter, the former U.N. Special Rapporteur on the Right to Food observes:

[Investments that increase food production will not make significant progress in combating hunger and malnutrition if they do not lead to higher incomes and improved livelihoods for the poorest—particularly small-scale farmers in developing countries. And short-term gains will be offset by long-term losses if they cause further degradation of ecosystems, thus threatening the ability to maintain current levels of production in the future . . . . Pouring money into agriculture will not be sufficient; the imperative today is to take steps that facilitate the transition towards a low-carbon, nature-conserving type of agriculture that benefits the poorest farmers.]

If we are to address the converging climate and food crises, a shift to sustainable agroecological practices is indispensable.

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99 WAKE UP BEFORE IT’S TOO LATE, supra note 9, at 34.
C. Restriction of Biofuels Expansion

The growing demand for biofuels is one of the primary drivers of food price increases and rising demand for crops, land, and water. In addition, most studies conclude that the net carbon benefits of biofuels are suspect. The United States and European Union have encouraged the development of biofuels industry through their renewable fuels mandates, and through policies that subsidize or protect the biofuels industry. It is essential to phase out the programs that support biofuels expansion. In the United States, for example, the tax credit for corn-based ethanol expired in 2011, but the renewable fuels mandate remains in place despite calls from both industry and environmentalists to modify or repeal it. The European Union attempted to mitigate the negative effects of its renewable fuels mandate by establishing sustainability criteria for biofuels that encourage the use of second-generation biofuels, i.e., those produced from non-food or waste products. This requirement, however, applies only to transport biofuels (and not bioliquids for heating and electricity) and the verification system to ensure compliance remains weak. In lieu of tinkering with the details of a failed program, the United States and European Union should modify their renewable fuels mandates to exclude first generation biofuels and aggressively promote other forms of renewable energy.

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100 See Sims et al., supra note 71.
103 See id. at art. 21(2).
104 See id. at art. 18 (relying on self-reporting by biofuels producers to verify compliance, supplemented by independent auditing of the information these producers submit).
D. Regulation of Agricultural Commodity Markets to Restrict Speculation

Despite the mounting evidence that financial speculation on agricultural commodity markets is exacerbating food price volatility, the United States has been slow to regulate the financial services industry. The European Union, by contrast, approved a Financial Transaction Tax in eleven countries to discourage speculative trading by taxing stock, bond, and derivative trading, but implementation has been delayed due to conflicts over major issues (including the scope of the tax and the distribution of revenues).

The United States and the European Union should consider several policy reforms recommended by UNCTAD in a recent report. These include enhancing transparency in commodity futures exchanges and over-the-counter markets, taxing financial market activities (particularly high-frequency trading), adopting internationally coordinated measures to restrict or prohibit commodity trading by financial institutions engaged in hedging their clients’ transactions, and intervening in commodity markets to address speculative bubbles.

E. Reforming BITs and HGAs

International investment law has facilitated the land grabs that currently threaten small farmers in the developing world. The BITs and HGAs among the foreign investor, the host state, and the

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home state typically restrict the regulatory authority of host states to protect the rights and livelihoods of their citizens. As one observer explains:

These agreements include no obligations for investors to comply with human rights standards and there are no mechanisms to regulate investor behavior, nor are there any means for host states to counterclaim in any arbitral proceedings brought against them where the investor has committed, or been complicit in, grave violations of human rights.  

The United States and European Union can take a leadership role in addressing these inequities by including in BITs and HGAs legally binding human rights obligations for investors (enforceable in both the home state and the host state) as well as targeted provisions that address the host state’s food security and sustainable development objectives. An excellent starting point is the Model International Agreement on Investment for Sustainable Development created by the International Institute for Sustainable Development.  

F. Moratorium on Land Grabbing

Governments, civil society organizations, and international institutions such as the World Bank and FAO have proposed a variety of instruments and approaches to address land grabbing. In general, these approaches can be grouped into three categories. The first approach, favored by the World Bank, seeks to facilitate these transactions by strengthening property rights, enhancing transparency and community consultation, and increasing the role of

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the state in identifying “idle” or “underutilized” land. The second approach, favored by many non-governmental organizations, international development agencies, and community organizations, sees the land deals as inevitable and favors the development of global standards and best practices to mitigate the risks and take advantage of the opportunities. The third approach seeks to stop and roll back land grabbing on the ground that the large-scale fossil fuel based industrial agricultural model dispossesses small farmers, degrades the environment, and exacerbates food insecurity. The former U.N. Special Rapporteur on the Right to Food has argued that:

[L]arge-scale investments in farmland should only occur as part of a broad strategy of rural development aimed at reducing rural poverty, and therefore hunger and malnutrition. But the ad hoc, case-by-case examination of various investment projects is not sufficient to ensure this. . . . Before approving any such project, a more comprehensive mapping of existing needs should be undertaken."\(^{112}\)

Unfortunately, governments in developing countries are competing for foreign investment and are often unwilling or unable to conduct these assessments or to impose restrictions on investors to generate local employment, protect the environment, and promote food security. In addition, the land grabs are proceeding rapidly and with minimal oversight.

Developed and developing countries should collaborate to impose a moratorium on these land grabs to allow host governments, home governments, civil society, and international institutions to develop more effective norms and oversight.

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\(^{111}\) See id. (describing and analyzing the three approaches).
\(^{112}\) The Green Rush, supra note 17, at 557.
CONCLUSION

For the reasons described in this article, food insecurity is not a function of food scarcity, bad weather, or simply bad luck. Food insecurity is a function of global economic order that systematically disadvantages poor farmers in developing countries. If we are to address food insecurity, then we must redouble our efforts to eliminate poverty. As Thomas Pogge reminds us, many of these measures do not require significant financial outlays or massive transfers of resources. They simply require that we reform the laws, practices, and policies that inflict unspeakable suffering on the world’s most vulnerable populations.

113 WORLD POVERTY AND HUMAN RIGHTS, supra note 1, at 9.
INTRODUCTION

The past decade has seen a radical remaking of direct food security interventions and an expanded understanding of preventing undernutrition. Previously, in the United States, transoceanic food aid was the standard, de-facto approach. Today, there are more food assistance choices—agencies can deliver cash, vouchers, or food procured locally, regionally, or transoceanically. Further, nutritionists, economists, and others have identified the first 1000 days as a critical window for life-long cognitive development and health outcomes. Relatedly, our understanding of the value of more tailored, nutritionally-specific interventions to reach nutritionally vulnerable groups has expanded.

As a result of this research on the causes and consequences of undernutrition and on different forms of food assistance, at least three programmatic changes may be on the horizon. First, an implication of the first 1000 days is arguably the need for a refocusing on how food assistance programs operate and whom they target. Second, and relatedly, renewed attention on the nutritional quality of food assistance means that future food aid baskets could rely more on micro-nutrient rich foods rather than on basic grains and pulses. Third, increased flexibility among food assistance tools means that by selecting the most appropriate tool, agencies can potentially meet a
variety of objectives, including faster delivery, lower-cost delivery, and delivery of more nutritious foods.

Yet, several challenges remain. First, while the number of food insecure individuals remains high, food aid funding levels have stagnated. Second, new knowledge and practices mean that business as usual will not be adequate. Agencies, donors, and local partners need to clarify and prioritize their objectives, recognizing that some forms of food assistance are better suited for some contexts and populations than others. Nutritional interventions, for example, need careful programming to reflect the heterogeneity of recipient groups. Third, food assistance is, just as food aid has been, a political issue, particularly in the United States.

One follow-on question is how policymakers, practitioners, and researchers can best incorporate this information into food assistance practice? In the remainder of this piece, I will first provide an overview of food aid and assistance and discuss some of the challenges facing the future of food assistance. Second, I will detail the evidence behind these three factors that can contribute to the future of food assistance. In conclusion, I will argue that opportunities resulting from these findings can generate more effective programs. However, the benefits of new forms of food assistance and improved nutritional practice will only be achieved if policymakers and practitioners clarify and prioritize among objectives and seek ways to build greater programming flexibility into the current system.

I. CHALLENGES

In 2012, the Food and Agriculture Organization (FAO) estimated that the number of food insecure individuals was 868 million.¹ The number of individuals affected by (non-complex)

¹ Global Hunger Down, FOOD AND AGRIC. ORG. OF THE U.N. (Oct. 1, 2013), http://www.fao.org/news/story/en/item/198105/icode/. Numerous definitions of food security exist. Here, I use the definition agreed upon during the 1996 World Food Summit, which defines food security as “a situation that exists when all people, at all times, have physical, social and economic access to sufficient,
disasters has nearly doubled in the past thirty years (see Figure 1); however, disasters are a relatively small driver of food insecurity.\(^2\) Food security is most often an issue of lack of access (i.e., the demand-side of food security, commonly manifested in an inability to afford food), as Amartya Sen noted in 1981.\(^3\) In fact, most food security is chronic or periodic (i.e., seasonal or predictably occurring). Poverty is the main driver of lack of access; indeed, the relationship between poverty and food security tends to be bidirectional, with one resulting in the other, and vice versa.\(^4\) Thus, while an increase in emergencies means that more individuals will require some form of food assistance, the majority of food insecure individuals and households face long-term structural (e.g., lack of employment with adequate purchasing power) or idiosyncratic (e.g., ill health or disability) challenges to achieving food security.\(^5\) Food assistance can rarely—if ever—resolve structural causes of food insecurity.

safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.” *Rome Declaration on World Food Security and World Food Summit Plan of Action, Food and Agric. Org. of the U.N., Rome Declaration on World Food Security* (Nov. 13-17, 1996), [http://www.fao.org/docrep/003/w3613e/w3613e00.htm#PoA](http://www.fao.org/docrep/003/w3613e/w3613e00.htm#PoA).


\(^5\) *Id.* at 154.
The nature of transoceanic and Local and Regional Procurement Project (LRP) food aid flows is also changing. Figure 2 presents a graph of global food aid volumes over the past thirty years. The graph includes both transoceanic food aid, which is purchased in the donor country and shipped to the recipient country, and locally and regionally procured food, which uses donor funding to purchase food for delivery either locally from the destination country or regionally from a neighboring or nearby country.

Most noticeable in Figure 2 is the decline in overall volumes. There is much less food aid available for delivery than there once was. Now, more donors provide food-security funding in the form of cash assistance and vouchers. Further, there has been rapid growth in LRP, which has shifted the source of in-kind food aid delivered from predominantly transoceanic locations to local and regional ones. For example, in the face of evidence-based research and civil society advocacy that food aid fails to be an effective surplus disposal mechanism, the European Union and Canada shifted their food aid policy away from transoceanic food aid toward funding for
cash-based transfers and local and regional procurement. In 1994-95, thirteen percent of all food aid by value was LRP. Yet, by 2010, sixty-seven percent of all food aid was LRP.

Second, the graph splits food aid flows into three categories. Emergency food aid is deliveries of in-kind aid to people experiencing short-term periods of food insecurity, perhaps due to a natural disaster or complex emergency. Program food aid is concessional sales to governments, and it is now a small portion of the overall total of food aid. Project food aid includes aid for development projects and for monetization, which is food aid sold in the recipient country to generate funds for development projects. Monetization is rarely cost-effective, often earning returns of only fifty to seventy cents locally per dollar spent. Over the past decade, funding for program and project food aid has declined, and most food aid now delivered is emergency-based.

Lastly, food aid flows are volatile, as indicated by the spikes in donations in 1992 and 1999. In both of those years, large U.S. donations to Russia contributed to the spike. U.S. food aid deliveries responded to a poor harvest and the dissolution of the Soviet Union in 1992 and the collapse of the Russian banking system and currency in 1999. Yet, these donations also reflect bumper harvests in the United States when food prices were low, making food aid relatively cheap. Further, some argue that delivering food aid to Russia was a

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7 International Food Aid Information System Database, WORLD FOOD PROGRAMME, http://www.wfp.org/fais/reports/quantities-delivered-two-dimensional-report/run/year/All/cat/All/recipient/All/donor/All/code/All/mode/All/basis/0/order/0.
low-cost political win for the United States. Unfortunately, these procyclical donations, providing more food aid when prices are low, often do not coincide when needs are greater, such as during the food price crisis of 2007-08.

![Figure 2: Global Food Aid Flows by Category (1981-2010)](image)

The United States has been slower to fund new forms of food assistance than counterpart donors. Further, it remains the dominant actor in transoceanic food aid deliveries. In 2011, eighty-nine percent of all transoceanic food aid deliveries originated from the United States. One reason for the slowness of the United States to change its approach is that large agro-processors, the U.S. shipping industry, and nongovernmental organizations (NGOs)—labeled as the “iron triangle”—have little interest in losing food aid related payments and funding. While many NGOs today embrace greater flexibility, and notably some large agro-processors as well, lobbying efforts by some members of the iron triangle to maintain the status quo should not be underestimated. In particular, U.S. flagged

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10 Id. at 26-30.
11 International Food Aid Information System Database, supra note 7.
12 BARRETT & MAXWELL, supra note 9, at 87.
13 NGOs, including CARE, which stated in 2006 that it would limit its monetization practices, have distanced themselves from the iron triangle. CARE
vessels receive priority bidding on some food aid cargo under the Agricultural Cargo Preference Act.\textsuperscript{14} As a result, members of the U.S. maritime industry have often lobbied to maintain the status quo of high food aid volumes and less funding for cash, vouchers, and local procurement.\textsuperscript{15} Balancing these domestic demands with recipient needs can hinder effective programming for recipients. Thus, food aid, perhaps especially in the United States, is political.

II. OPPORTUNITIES

A. New Forms of Food Assistance

Deliveries of cash, vouchers, and locally and regionally procured (LRP) food are now commonplace, while traditional, transoceanic food aid deliveries are declining. Some of the prospective benefits of moving away from food aid as de facto response include faster deliveries, lower costs, local foods are more acceptable to respondents, supporting local markets, and improving nutritional outcomes. These new forms of food assistance are not without potential risks: traders may default during local procurement; local foods may not meet similar quality and safety standards as transoceanic food aid; resources may be inequitably shared within households; and local foods may be less fortified or nutritious. Any form of food assistance can potentially have an adverse impact, depending on the local context. For example, large injections of cash

\textsuperscript{14} Elizabeth Bageant et al., Food Aid and Agricultural Cargo Preference, 32 APPLIED ECONOMIC PERSPECTIVES & POLICY 624 (2010).

\textsuperscript{15} Id. at 626-28.
could potentially adversely affect prices and/or disrupt local markets.  

Our understanding of the tradeoffs among and impacts of food assistance instruments has not always kept pace with these changes, in part due to a lack of comparable data. Recently, several new studies more clearly identify the possible benefits and drawbacks of the various forms of food assistance.

Two recent randomized trials compare cash and in-kind distributions, equalizing the magnitude of transfer, program design, and frequency of transfer across the different food assistance forms.  In Niger, researchers found that recipients of food baskets had higher dietary quality and consumption than recipients of cash. Those receiving cash chose to spend some of their funds on improving their dwellings prior to the rainy season or purchasing agricultural inputs. Food deliveries were fifteen percent more expensive than cash deliveries. In Ecuador, researchers found that relative to cash transfers, food transfers result in recipients consuming significantly greater calories while food vouchers resulted in significantly greater dietary diversity. Thus, the nutritional impact varies not only by the form of transfer, but also by nutritional measure used.

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16 Christopher Barrett et al., Market Information and Food Insecurity Response Analysis, 1 FOOD SECURITY 151, 155-57 (2009).
18 Id. at 3.
19 Id. at 4.
20 Id. at 6.
22 Id.
A nine-country evaluation undertaken by the LRP Learning Alliance compared LRP, cash, and voucher projects with matched transoceanic food aid provided at similar locations during similar timeframes in the fiscal year 2011. The focus areas of the evaluation included timeliness, costliness, impacts on price levels and volatility, impacts on smallholder farmers, and recipient satisfaction. Because cost savings and time are usually the driving sources of advocacy for LRP, I limit discussion of the findings to these two areas.

Regarding timeliness, cash, vouchers, and locally purchased food arrived, on average, nearly fourteen weeks earlier than matched deliveries of in-kind transoceanic food aid. In Figure 3, countries are arranged by the number of weeks saved with the top-most country program (i.e., Zambia) experiencing the most time saved. The six programs that experienced the most time saved were located in landlocked countries. One reason why timeliness matters is because the first 1000 days (discussed below)—from conception until a child turns age two—is the most critical window for nutrition during a person’s life. A savings of fourteen weeks translates into about ten percent of the first 1000 days. The timeliness of food assistance delivered to pregnant and lactating women and children could make the difference between a healthful, productive life, and stunted growth and decreased human capital.

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24 Erin Lentz et al., The Timeliness and Cost Effectiveness of the Local and Regional Procurement of Food Aid, 49 WORLD Dev. 9 passim (2013).
25 Id. at 9.
Figure 3: Number of Weeks Saved Using Local and Regional Procurement Project (LRP), Cash, or Vouchers Relative to Transoceanic Food Aid

Compared to transoceanic shipments, the same nine-country evaluation found that, compared to transoceanic shipments, local purchases, cash, and vouchers of cereals and grains were over fifty percent cheaper. The average savings associated with these new forms relative to transoceanic food aid for beans and pulses was twenty-five percent. Yet, there was often little or no cost-savings associated with locally purchasing processed products, such as vegetable oil and corn-soy blend. Further, oceanic shipping costs drive the price differentials for grains and pulses.27

One finding to emerge from the nine LRP Learning Alliance projects is that each form of food assistance does not necessarily meet any single objective (the following objectives were evaluated: timeliness, costliness, price and price volatility, impacts on smallholder suppliers, and recipient satisfaction) in all locations or all objectives in any one location.28 Donors and agencies need to

27 See The Timeliness and Cost Effectiveness of the Local and Regional Procurement of Food Aid, supra note 24, at 9.
28 See On the Choice and Impacts of Innovative International Food Assistance Instruments, supra note 23, at 1; see also Hidrobo et al., supra note 21, at 1; Hoddinott
prioritize objectives, and recognize that there might be tradeoffs among them. Such a prioritization will assist in choosing the most suitable (combination of) food assistance tools. For example, certain nutritional outcomes appear easier to achieve with in-kind food, such as increased caloric consumption; while other measures, such as dietary diversity, may be more achievable through voucher distribution or cash. Similarly, not only do objectives matter, but so does the context. What may be appropriate in one situation may not work well in another. As a result, agencies and donors need context-specific response analysis that evaluates market conditions, local preferences, security, and other concerns to identify what form(s) of food assistance is appropriate.

B. Nutrition and Food Aid Quality

In a 2011 review on food aid quality and nutrition undertaken at the request of USAID, Webb et al. argue that “[p]utting nutrition at the heart of the food aid agenda will enhance the impact and credibility of Title II programming,” which is USAID’s largest source of food aid funding. Indeed, they argue that the nutritional needs of the populations served by USAID are heterogeneous. For example, nutritionally vulnerable populations, such as people living with HIV/AIDS or tuberculosis, children who are wasted, or children and mothers in the first 1000 days need different, nutrient dense, specialized foods. The authors write, “[f]oods . . . should be designed with the physiological demands of the target group in mind.” Further, Webb et al. argue for greater choice among the nutritional tools available, highlighting the promise of lipid-based

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29 See id.
30 Id. at 16.
32 Id. at 10.
products and advocating for better formulations of fortified blended foods and premixes of micronutrients, vitamins, and minerals.\textsuperscript{33}

Thus, while the LRP Learning Alliance findings show that the objective and context matter, Webb et al. find that composition of the nutritional basket matters as well, especially for nutritionally vulnerable individuals.\textsuperscript{34} No one type of food can meet all programming goals, and no single programming approach is appropriate for all populations. In other words, if the goal for food assistance is to be something more than “the number of people ‘fed,’” practitioners and policymakers need to fine-tune food aid baskets to meet the needs of the targeted population.\textsuperscript{35} Yet, identifying which nutritional tools to use, and when, is complex.

C. The First 1000 Days

Mounting evidence indicates that the period from conception to age two—the first 1000 days—is the most important window for lifelong health and cognitive outcomes.\textsuperscript{36} Victora et al. find that poor fetal growth or stunting before age two is associated with shorter adult height, reduced economic productivity, less schooling, and, for women, lower offspring birthweight.\textsuperscript{37} Although there is more evidence of the possibility of cognitive and socio-emotional skills “catch-up” after the first 1000 days, the evidence of successful “catch-up” growth for stunted after the first 1000 days has been uneven. The authors argue that an implication of their findings is that “the prevention of maternal and child undernutrition is a long-term investment that will benefit the present generation and their children.”\textsuperscript{38} Furthermore, Ruel et al., found that in Haitian districts with high rates of undernutrition, preventing undernutrition was more effective and lower in cost than a recuperative approach.

\textsuperscript{33} Id. at 2.
\textsuperscript{34} See id.
\textsuperscript{35} See Webb, supra note 31, at 6.
\textsuperscript{36} Victora, supra note 26.
\textsuperscript{37} See id. at 340.
\textsuperscript{38} Id.
targeting already underweight children. The preventative approach included food aid rations, as well as a range of health and behavior change interventions.

Reaching mothers and their children during the first 1000 days appears to have greater longer-term health outcomes than reaching other populations, including school-age children. Yet, food assistance programs often target school-aged children with school meals and take-home rations because school-age children are more easily reachable and food assistance can incentivize school attendance. While increasing school attendance and improving nutritional status are both important priorities, it is worth considering whether mechanisms other than food assistance would also be effective for boosting enrollment, saving food assistance for nutritional objectives.

CONCLUSION

More than ever before, there is an opportunity for food assistance to be fit for purpose. Yet, how best to incorporate these findings into future U.S. food assistance projects and programs is an open question and several challenges remain. First, the evidence briefly discussed above indicates that the most important window for long-term nutritional outcomes is the first 1000 days. Targeting mothers and their children during that window may be the most efficient way to limit stunting. Nonetheless, efficiency is only one consideration when determining who should receive food assistance. Equity also matters. Expecting families to direct all food transfers to certain members while others go without is unrealistic. Similarly,

41 See The Economics and Nutritional Impacts of Food Assistance Policies and Programs, supra note 4, at 156.
targeting certain members of a community while ignoring others who are arguably experiencing the same degree of food insecurity, such as the elderly or infirm, can be disruptive within the community. Thus, balancing efficiency and equity remains an important challenge, particularly because funding for food assistance is limited.

Second, blanket prevention during the first 1000 days can be more effective and cost efficient than recuperative treatment. Many anthropomorphic indicators, such as wasting and stunting, are lagging indicators. In other words, by the time they are identified, children are already food insecure. Therefore, a stronger focus on preventing these conditions can be more effective than intervening once emergencies have been declared. Yet, the bulk of current food aid funding goes to emergencies. Inasmuch as possible, prioritizing preventative food assistance programming in districts with high undernutrition can get assistance to those who need it, but are not yet showing the physical manifestations of undernutrition, faster. This could include redirecting food assistance resources away from other programs that can operate with alternative sources of funding.

Third, greater flexibility associated with the new forms of food assistance brings opportunities to better meet a range of food security and nutrition objectives. Prioritizing more explicitly among objectives—and recognizing that there are tradeoffs—can assist in identifying which type of transfer will be best suited to the local context. Nonetheless, greater flexibility also requires more effort to identify which type of food assistance is appropriate for the prioritized objective for a given context. Greater flexibility also requires more effort to identify which type of food assistance is appropriate for the prioritized objective (for a given context). A corollary of greater flexibility is that donors and nongovernmental agencies also need ways to build in greater programming flexibility so

42 See Measuring Food Insecurity, supra note 2, at 827.
43 See id. at 827; Joanna Upton & Erin Lentz, Expanding the Food Assistance Toolbox, in UNITING ON FOOD ASSISTANCE: THE CASE FOR TRANSATLANTIC COOPERATION 75, 76 (Christopher Barrett et al. eds., 2012); see also Webb, supra note 31, at 10.
that they can change their approach as context changes (e.g., as prices increase, nutritional needs change, or markets recover).

Lastly, food assistance is political and will likely remain so. Because the flexibility of U.S. food assistance is relatively new, and our understanding about the long-term effects of undernutrition in the first 1000 days is expanding, we are at a particular moment when evidence helps to shape the debate about the future of food assistance. Evidence helps to navigate political discussions and move debates from the ideological to the concrete. Looking forward to the next round of Farm Bill negotiations, we have an opportunity to build the evidence base and clearly articulate how new innovations and approaches can improve food assistance programming.
U.S. AID TO AGRICULTURE: SHIFTING FOCUS FROM PRODUCTION TO SUSTAINABLE FOOD SECURITY

Marc J. Cohen, Ph.D.*

INTRODUCTION

Since the 1960s, agriculture has waxed and waned as a key theme of U.S. international development assistance. Periodic global food crises, such as those in 1974 and 2008, have put agriculture, food, and nutrition at the top of the U.S. development agenda.¹ But in more “normal” times, agriculture has had to compete for budget resources with other priorities, such as global health, child survival, environmental sustainability, and gender justice.²

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Furthermore, the approach to agricultural development has shifted considerably over time. In the 1960s and 1970s there was an overwhelming emphasis on food production. Beginning in 2000, U.S. development policy makers began focusing on more holistic approaches that emphasize markets, consumption, nutrition, sustainable natural resource management, and empowering women, in addition to a continued focus on food production. The Presidential Feed the Future (FtF) initiative, launched after the 2009 L’Aquila G8 Summit, incorporates such a holistic approach to agricultural assistance. This paper explores the evolution of U.S. agricultural aid by examining shifts in funding and policy, and the implementation of FtF. The extent to which U.S. assistance supports agricultural and related rural development matters greatly, because the overwhelming majority of the world’s poor people live in rural areas and depend on agriculture and related activities for their livelihoods.3

I. MALTHUS V. BOSERUP

Concern about the balance between the growing number of humans and scarce natural resources have long shaped debates about global agricultural development. Indeed, these concerns were the overarching framework for the Penn State journal of Law and International Affairs Symposium from which the papers in this volume are drawn. The classic approach of the English Economist and Cleric Thomas R. Malthus remains influential today: “The power of population is indefinitely greater than the power in the earth to produce subsistence for man.”4 Writing more than a century and a


half later, Danish Economist Ester Boserup stood Malthus on his head, arguing that population pressure tends to induce innovations in markets, institutions, and technology.\(^5\) This debate is more than an interesting academic exercise. If policy makers conclude that Malthus was right, they are likely to support efforts to limit population growth (family planning). Officials who adopt Boserup’s view (which has influenced the agricultural economics profession and development agencies) will channel resources to technological and institutional development.

II. THE GREEN REVOLUTION

In the 1960s, Malthusian pessimism about rapid population growth held sway,\(^6\) but this gradually gave way to technological optimism in the 1970s. Based on experience with hybrid cereal varieties used in developed countries, agricultural development experts sought to promote adaptation and adoption of high-yielding varieties in developing countries. The goal of this Green Revolution was to “grow the pile of food.”\(^7\) Experts anticipated that increases in agricultural production would ensure an adequate food supply to meet the growing demand stemming from population growth. This strategy relied on the use of high-yielding cereal crop varieties, which in the 1960s and 1970s usually required the application of mineral fertilizers and synthetic pesticides for optimal results.

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\(^7\) I am indebted to Curtis Farrar, former Executive Secretary of the Consultative Group on International Agricultural Research, for identifying this phrase.
The results on the supply-side were phenomenal. As Figure 1 indicates, world cereal yields rose dramatically between 1961 and 2009, with little or no increase in the land area harvested. Asia and Latin America experienced big jumps in productivity. Notably, increased production was seen in areas with a high percentage of food-insecure people, such as the Indian Subcontinent.

![Figure 1. World cereals, average yield and harvested area, 1961-2009 and projections to 2050](image)

The benefits of using high-yield crops were not limited to the supply side. Where the Green Revolution took hold, higher productivity meant higher farm incomes due to the decrease in unit cost of production. More abundant harvests created on-farm employment opportunities and lowered food prices for consumers. Indeed, Green Revolution related production increases were a major

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10 Id.
factor in the long-term decline in real world food prices between 1961 and 2006 (see Figure 2). Increased rural prosperity stimulated demand for goods and services throughout the economy, spurring generalized economic growth.\textsuperscript{11}

![Figure 2](https://example.com/figure2.png)

Figure 2. FAO Food Price Index in Nominal and Real Terms, 1961-2014\textsuperscript{12}

Boserupian triumphs, however, had a dark side.

- In many instances, the need for purchased farm inputs (fertilizer, pesticides, and seeds) meant better-off farmers tended to adopt new technology earlier and reap most of the benefits. Poor farmers frequently lacked necessary capital to purchase external inputs. Without adequate financial resources, lower-income farmers relied on saved seeds and used organic material from the farm for fertilizer.

- Agricultural development program designs did not always ensure women benefitted along with men. In many developing countries, women farmers have less access to land, inputs, education, training, advisory services, and credit than men. In addition, women farmers have demands on their time related to child care and household tasks.

\textsuperscript{11} Id.

Misuse of farm chemicals necessary to produce high yields led to environmental and human health problems.

Monocropping of high yielding cereal varieties led to loss of genetic diversity. Without genetic diversity, future plant breeding and food security are threatened.

Productivity gains in cereals sometimes came at the expense of other important food crops. For example, in South Asia farmers abandoned lentils in favor of wheat and rice.

Green Revolution technology had less promising results in Sub-Saharan Africa. Lackluster results were linked to the high cost of adaptation across extraordinarily diverse agroecologies; low investment in agricultural research and development; lack of infrastructure, markets, and supporting institutions; differences from other regions in the gender division of labor and in women’s access to assets; and, in some countries, severe disruptions as a result of protracted violent conflict.13

III. WAXING AND WANING INTEREST IN AGRICULTURE

In the mid-1970s there was concern about widespread food shortages. Food prices rose rapidly, and Bangladesh and several countries in Africa experienced severe food emergencies. In response to these concerns, the international community held the 1974 World Food Conference in Rome where nations solemnly pledged to eliminate hunger within a decade.14 Following the

14 Horton, supra note 1, at 37-38.
commitments made at the World Food Conference, aid to agriculture rose rapidly until the mid-1980s. After the mid-1980s, agricultural assistance declined sharply until the mid-2000s (see Figure 3).

![Figure 3. Trends in Aid to Agriculture and Rural Development, 1971-2010, in constant 2010 U.S. dollars](http://www.oecd.org/dac/stats/Trends%20in%20Agriculture%20and%20Rural%20Development.pdf)

A number of factors led to the steep and sustained decrease in aid to agriculture. First and foremost, the donor community declared victory when the Green Revolution led to higher cereal output and lower food prices. With a sense of victory came complacency, as donors and developing-country governments alike felt less urgency about investing in agriculture in light of the gains achieved. Second, donors increasingly focused on other development priorities—such as gender, environmental sustainability, global health, and child survival—and slashed overall aid budgets in the 1990s, leaving little funding for farm-related assistance. Moreover, because of sectoral siloing within aid programs, there was...
little effort to consider the intimate links between agriculture and rural development and other priority concerns in rural areas of the developing world. Third, many development experts consider agriculture a “sunset activity” and favor greater emphasis on manufacturing and services. By focusing on manufacturing and service industries, experts have missed an important reality of world poverty. Concentration of poverty in rural areas means that agriculture and related activities are likely to remain the main source of livelihoods for poor people for some time to come. Finally, donors’ and international financial institutions’ emphasis on reducing the economic role of the state in favor of the market during the 1980s and much of the 1990s reduced the resources devoted to agricultural public goods in developing countries, such as research and extension. For their part, the governments of low-income developing countries devoted less than five percent of their budgets to agriculture in the early 2000s, even though for most such countries agriculture represented the largest share of gross domestic product and the main source of employment. These same governments allocated an average of twelve percent of expenditures to the military.

IV. EVOLVING APPROACHES TO AGRICULTURAL AND RURAL DEVELOPMENT

The World Food Summit, held in Rome in 1996, issued an impassioned appeal for renewed attention to food and agriculture, calling the persistence of world hunger “unacceptable.” It set the

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20 WORLD DEVELOPMENT REPORT 2008, supra note 3.
22 FOOD AND AGRIC. ORG. OF THE U.N., ROME DECLARATION ON WORLD FOOD SECURITY (Nov. 13-17, 1996), http://www.fao.org/docrep/003/w3613e/w3613e00.HTM.
goal of halving the number of people living in hunger as of 1990 by 2015, and also emphasized that food security is about much more than “growing the pile of food,” as important as that remains; access to food and good nutrition are also essential.\textsuperscript{23} Coming on the heels of the 1992 U.N. Conference on Environment and Development and the 1995 Fourth World Conference on Women, the Summit also placed considerable emphasis on sustainable natural resource management and attention to gender issues.\textsuperscript{24} Finally, it strongly reaffirmed the right to adequate food. At least implicitly, delegates acknowledged the need to address equity, ecological, and gender issues, something that the Green Revolution did not do.\textsuperscript{25} But, the Summit did not succeed in reversing the decline in public investment in agricultural and rural development.

V. SOARING FOOD PRICES: A SHOCK TO THE SYSTEM

In 2007, the long, steady decline in global food prices came to an end. Prices shot up, and the increases accelerated during the first half of 2008. Today, food prices remain above the levels of the mid-2000s, and many analysts consider the era of low food prices to have ended. By June 2008, world prices for beef and poultry had doubled over the levels of January 2003; wheat, corn, and dairy had risen threefold; and the price of rice, the most widely consumed staple, had shot up fivefold.\textsuperscript{26} The causes of these increases were complex and multiple, including both short-term and structural factors:

- Higher fuel prices, which in turn raised the cost of agricultural inputs, operating farm machinery, and transportation;

\textsuperscript{23} Id.
\textsuperscript{24} Id.
\textsuperscript{25} Id.
• Diversion of food and feed to biofuel, such as corn ethanol in the United States;

• Speculation on commodities markets;

• Environmental factors, such as prolonged drought in Australia, a key agricultural exporter;

• As prices rose, the imposition of export embargoes in key supplier countries such as India, which in turn led to panic buying by major importing countries, such as the Philippines, leading to further price increases; and

• The long-term decline in investment in agriculture.

Of course, global food prices do not necessarily determine national and local prices, as these are influenced by a wide range of government policies, how effectively local markets operate, the ability of households to produce at least some of the food they consume, etc. Nevertheless, broadly speaking, the consequences of the price hikes included:

• Severe hardship for low-income net buyers of food, including many small-scale farm families. For low-income people, higher food prices frequently mean having to choose whether to pay for food, health care, shelter, or education;

• Less healthy diets, as families often gave up meat, fruit, and vegetables in favor of maintaining calorie consumption from cereals to keep working;

• More poverty (but estimates vary widely and are controversial);

• Protests in more than sixty countries, mostly in cities, where people overwhelmingly depend on purchases to procure their
food. Some of these turned violent, e.g., in Haiti, where rioting led to the collapse of the government.27

Protests and riots in urban areas—especially in capital cities—are politically salient, and the escalation of food prices put food and agriculture squarely on the global front policy burner once more. In 2008, the United Nations issued a comprehensive action plan, which emphasized increased investment in smallholder agriculture as a means of producing more food, lowering prices, and boosting poor people’s incomes. Many heads of state and government attended a mini-summit on the food crisis in Rome. In 2009, the leaders of the wealthiest countries pledged $22 billion in agriculture and food security aid to developing countries at the G-8 Summit in L’Aquila, Italy. According to the United Kingdom government, as of mid-2013, donors had disbursed $16.4 billion, or more than seventy percent of the sum pledged.28

VI. FEED THE FUTURE: A POST-GREEN REVOLUTION APPROACH TO AGRICULTURE AID

To meet the U.S. share of the L’Aquila commitments, the Obama Administration launched a new initiative called Feed the Future (FtF).29 This $3.5 billion program directs its resources to a limited number of countries that have developed a national agricultural investment plan.30 Rather than simply supporting increased food production, FtF targets resources to inclusive agricultural growth, empowerment of women, improved nutrition, and sustainable and equitable management of land, water, and

27 For more details on the causes and consequences of rising food prices, see THE GLOBAL FOOD CRISIS, supra note 26.
fisheries in what the program calls “climate-smart agriculture.” In effect, FtF has institutionalized the post-Green Revolution more holistic approach to supporting agricultural and rural development, although the program in many instances does continue to promote high external input technologies.

Oxfam America has commissioned research in several countries that have received FtF resources to assess program implementation. The findings represent a mix of positive and problematic elements:

• In Senegal, the program supports substantial efforts to manage natural resources sustainably. Conservation farming, which is an integral part of these efforts, has also contributed to yield gains for participating farmers. However, farmers who participate in FtF-supported activities lack access to timely weather information, which hampers agricultural adaptation to climate change.

• In Tanzania, farmers participating in FtF-supported activities have likewise experienced productivity gains. However, the benefits have mainly gone to producers with access to good quality land and to water. In contrast to Senegal, the program has paid insufficient attention to sustainability. Also, FtF implementers engaged in little consultation with the beneficiaries about the design of the program, even though

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31 Id.
33 Id. at 35.
34 Id. at 6.
36 Id. at 25, 31.
FtF places considerable emphasis on farmer empowerment and engaging civil society in the development of national agricultural investment plans.\(^{37}\)

- In Haiti, FtF-supported farmers have achieved impressive yield gains, but it is unclear whether they can maintain them in the absence of aid resources.\(^{38}\) The program emphasizes rehabilitation of Haiti’s severely degraded watersheds and promotes the system of rice intensification, an approach to rice production that reduces the use of chemicals and fertilizer, which seems well suited to resource-poor farmers who cannot afford purchased inputs.\(^{39}\) But, it has provided disproportionate training resources to men, notwithstanding the empowerment of women mandate. As in Tanzania, implementers did not consult beneficiaries about program design.\(^{40}\) Also, U.S. agricultural trade policy, which seeks to maintain overwhelming dominance in Haiti’s rice market, lacks coherence with FtF’s goal of supporting Haitian food production.\(^{41}\)

### CONCLUSION

Research on implementation of FtF indicates that there are a number of positive aspects to this new U.S. approach to aid to agriculture. After a long period of resource limitations, it provides substantial new funds in support of agriculture, bolstering food production while also taking into account the environmental and social context of agricultural and rural development. That said, a

\(^{37}\) Id. at 4-5.


\(^{39}\) Id. at 33-37.

\(^{40}\) Id. at 25-30.

\(^{41}\) Id. at 16; see also Marc J. Cohen, *Diri Nasyonal Ou Diiri Miamit Food, Agriculture and US-Haiti Relations*, 5 FOOD SEC. 4, at 597-606 (Aug. 2013).
more consistent effort to draw on farmers’ own knowledge and definitions of problems in FtF programming would improve the initiative’s results. This is not just a matter of engaging in genuine partnerships and encouraging beneficiary participation, as important as those are. Decades of development experience also shows that when people who are supposed to benefit from aid have a sense of “buy-in,” they are much more likely to sustain the gains that they achieved after aid resources are no longer available. In addition, when U.S. trade policies work at cross-purposes with U.S. agricultural assistance, it is difficult for the latter to achieve a long-lasting impact. In low-income countries, U.S. efforts to promote agricultural development and food self-reliance are the best way to achieve viable and equitable trading relationships over the long term.
GLOBAL HUNGER AND THE WORLD TRADE ORGANIZATION: HOW THE INTERNATIONAL TRADE RULES ADDRESS FOOD SECURITY

Terence P. Stewart and Stephanie Manaker Bell*

INTRODUCTION

The Ninth Ministerial Conference of the World Trade Organization (WTO) held in Bali, Indonesia in early December 2013 was the focus of much global attention, as many believed that the inability of the Members to adopt an agreement could signal the end of the WTO as a legislating forum. While a package was ultimately adopted, negotiations almost unraveled at the eleventh hour when a consensus could not be reached over part of the package relating to public stockholding for food security in developing countries. The public stockholding agreement, intended to serve as a temporary fix until a permanent solution can be agreed upon, protects developing Members from challenges through the WTO Dispute Settlement system for measures taken relating to support provided for certain foods in pursuit of public stockholding programs for food security.

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purposes. While all WTO Members recognized the importance of food security and agreed that countries should have the ability to provide food to their most vulnerable populations, there were concerns over the public stockholding agreement due to the lack of disciplines in the agreement and the possible resulting trade-distorting practices that could harm other Members.

The concerns that were displayed during the negotiation of this agreement highlight the interplay of global trade rules and the pursuit of food security, as well as the challenges that can arise in developing such rules. As the production, price, and movement of food has obvious implications for addressing global hunger, the international trade regime has played an influential role. While the WTO and its predecessor, the General Agreement on Tariffs and Trade (GATT), have sought to promote liberalization, international trade rules have also been developed with the recognition of, and in support of, nations’ and the global community’s ability to address food security issues. As the global community continues to fight toward the eradication of hunger, the role of the international trade regime as a catalyst for achieving food security must continue to be pursued. The trading rules that have been developed, as well as changes and new rules that can be implemented through further negotiations, have been playing, and will continue to play, a role in the fight to end world hunger and to establish a system in which global food security is sustainable. This paper reviews the ways in which the international trade regime has sought to address food security issues, as well as additional developments that have been discussed as part of further negotiations. The paper is being published in conjunction with the 2014 Penn State Journal of Law and International Affairs Symposium, titled “The 9 Billion People Question: The Challenge of Global Resource Scarcity.”

I. GLOBAL HUNGER AND THE INTERNATIONAL RESPONSE

During the period of 2011-2013, an estimated 842.3 million people were undernourished, with the vast majority—826.6 million—
living in developing regions.\(^1\) Indeed, while developing regions account for about eighty-two percent of the world’s population, they account for ninety-eight percent of the world’s undernourished peoples.\(^2\) The consistently large number of people facing hunger has been and continues to be a major concern within and among countries, inter- and intra-national organizations, and non-governmental entities alike, with numerous national and multilateral entities working individually and together to help eradicate hunger across the globe. These entities have worked for decades to alleviate hunger through programs such as growing small-scale agriculture, providing food aid to vulnerable populations and during emergencies, monitoring food prices, and developing infrastructure.

The factors contributing to global hunger and creating barriers to achieving food security are numerous and complex. These include issues affecting global and regional supply—such as weather, trade policies, energy prices, and agricultural research and development—and demand—such as consumption patterns, financial markets, and biofuel policies.\(^3\) Not only do these issues create difficulties in and of themselves, but they can also interact in ways that exacerbate each other. For example, the decrease in funds available for agricultural research and development over recent decades has contributed to lower supplies, as it can stifle development in areas like higher yields, more weather resistant crops, and better storage techniques. At the same time, the effects of climate change will have implications for when and where products can be produced, leading to an even greater need for increased financing of research and development and placing additional pressures on already limited resources.


These factors affect and interact with issues of availability, access, and price to create complex challenges. For example, in terms of the availability of food, the Food and Agriculture Organization of the United Nations (FAO) estimates that during the 2011-2013 period there was a sufficient supply of food worldwide to meet the dietary needs of the world population; yet one in eight people on earth is undernourished, and for a number of individual countries the supply of food was not sufficient to meet the needs of that population. Accordingly, although global supply is not the present problem to solving global hunger, at a macro-level it clearly is part of the problem on the undernourished country level (and, within countries, in specific areas of those countries). Trade policy and rules play a role in limiting the continued adverse effects that produce hunger to such an extent.

In addition, as the population increases and demand for basic foodstuffs grows, the growth in supply will have to keep pace—in fact, an estimated sixty percent more food will be needed by 2050. Part of that can be addressed through a reduction in waste in all countries. One report estimates that, if food loss and waste were cut in half, the resulting food saved would account for twenty-two percent of the increased amount of food needed in 2050. Trade policy and rules can also play a role here, as they can help address non-tariff barriers that create delays when goods are crossing borders. One report highlights the immense impact that border delays can have on food prices: “Border delays have significant impacts on the movement of food, especially in developing countries. For example, the Burundi-Rwanda border adds the equivalent of 174 kilometres

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4 Food Security Indicators, supra note 2, at Table V_1.1.
(km) in terms of increasing food prices; the Democratic Republic of Congo-Rwanda border adds a staggering 1,600 km.”

A second complexity concerns access. The FAO estimates that there is a sufficient supply of food available in a number of developing countries and least-developed countries (LDCs) to meet the dietary needs of the population; still, millions of people in these countries suffer from hunger. Thus, access to food poses a significant barrier to achieving food security. In other words, food may be available to certain populations in theory, but a lack of infrastructure and proper storage and transportation systems may prevent those in need from actually being able to access what is available. Access is also particularly problematic in countries involved in conflict and among displaced and politically vulnerable populations, where getting food to those in need is affected by additional complications. Indeed, as shown in the table below, of the forty-one developing countries with twenty percent or more of their population undernourished in 2011-2013, twenty countries were identified by the World Bank as fragile and conflicted areas within the past five years, compared to eleven of the eighty-seven developing countries with less than twenty percent of their population undernourished.

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\[Id.\ at 7 \text{(footnote omitted)}.\]
### Percent of Population Undernourished in Developing Countries (2011-2013)

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<tr>
<th>&gt;35%</th>
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Countries listed in **bold** are those identified by the U.N. as LDCs; countries listed in **italics** are those identified by the WTO as net food-importing countries (other than LDCs); countries marked with “*” have been identified as fragile and conflict-affected areas by the World Bank within the last five years.


Another layer of complication arises where food may be available (and accessible), but high and rising food prices have made it increasingly difficult for populations in developing regions to obtain sufficient food. High and volatile food prices are especially problematic for poorer populations because they spend a larger portion of their income on food. As highlighted by Professor Carmen G. Gonzalez, food insecurity is a function of poverty: “The problem is inequality and land ownership, lack of employment, lack of income. To address food security, it’s necessary to address the problem of poverty.”

The effect of food prices on hunger is illustrated in part by the relative decrease in the percent of the developing world population that lives in extreme poverty versus the percent of the developing world population that is undernourished. Between 1990-1992 and 2011-2013, the percent of the developing world population that is undernourished decreased by about thirty-nine percent; in comparison, during the same period, the percent of

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8 Carmen G. Gonzalez, Remarks at the Penn State Journal of Law and International Affairs Symposium: The 9 Billion People Question: The Challenge of Global Resource Scarcity (Feb. 7, 2014), [http://mediasite.dsl.psu.edu/Mediasite/Play/623941f54f854efaaa7bcd1a9805b0dc1d](http://mediasite.dsl.psu.edu/Mediasite/Play/623941f54f854efaaa7bcd1a9805b0dc1d) (starting at 04:14:25).
the population living in extreme poverty decreased by about fifty-three percent.9 The relatively greater reduction in poverty suggests that higher food prices have resulted in certain populations remaining undernourished even though their incomes may have increased. Moreover, food price volatility can create a ripple effect that exacerbates its impact on hunger. Political instability often results as a consequence of high food prices and food price volatility; where there are political conflicts, however, it becomes increasingly difficult to get food to populations in need. Thus, a reaction to an inability to obtain food—political upheaval—can make it even more difficult to remedy the underlying problems.

As there is no single factor causing global hunger, there is no single solution. The multitude of causes interact to create significant complexities, and the global community thus faces no shortage of challenges in addressing global hunger. But as trade is certainly one of the factors involved, trade policy and the WTO rules have worked to facilitate the eradication of global hunger.

A. Millennium Development Goals

In September 2000, heads of state and other high-ranking officials from 189 countries gathered for the United Nations Millennium Summit. During the summit, participating countries unanimously adopted the United Nations Millennium Declaration, which identified a number of values and objectives that the international community should seek to promote and achieve in the twenty-first century.10 The objectives identified related to peace, security, and disarmament; development and poverty eradication; protecting our common environment; human rights, democracy, and good governance; protecting the vulnerable; meeting the special needs of Africa; and strengthening the United Nations.11

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11 Id. Peace, security and disarmament (Id. ¶¶ 8-10); poverty eradication (Id. ¶¶ 11-23); human rights, democracy, good governance (Id. ¶¶ 24-25); protecting
identified goals were “derived from the global conferences of the 1990s and from the international norms and laws that had been codified over the past half-century[]” and eventually became known as the Millennium Development Goals (MDGs).\textsuperscript{12}

There are eight MDGs, each of which includes specific targets.\textsuperscript{13} The first MDG is to eradicate extreme poverty and hunger. One of the targets identified to achieve this goal is to halve, between 1990 and 2015, the proportion of people who suffer from hunger.\textsuperscript{14} Considering that 23.3 percent of the population in developing countries (approximately 995 million people) was undernourished in the 1990-1992 period, meeting this goal would have a tremendous impact on global hunger. Since the establishment of the MDGs, substantial progress has been made, with the proportion of the population in developing countries that is undernourished decreasing to 14.3 percent (about 826 million people) by the 2011-2013 period.\textsuperscript{15} While a number of countries are not expected to meet the MDG target if current trends continue or have shown no progress or deterioration, the United Nations has reported that the MDG target is still “within reach,” as a number of developing countries have already met or are expected to meet or exceed this goal.\textsuperscript{16}

\begin{itemize}
\item the vulnerable (Id. ¶ 26); meeting the special needs of Africa (Id. ¶¶ 27-28); strengthening the U.N. (Id. ¶¶ 29-32).
\item 13 The eight MDGs are (1) eradicate extreme poverty and hunger; (2) achieve universal primary education; (3) promote gender equality and empower women; (4) reduce child mortality; (5) improve maternal health; (6) combat HIV/AIDS, malaria, and other diseases; (7) ensure environmental sustainability; and (8) global partnership for development. See generally We Can End Poverty: Millennium Development Goals and Beyond 2015, UNITED NATIONS, http://www.un.org/millenniumgoals/ (last visited Apr. 20, 2014).
\item 14 The other targets identified for this goal are to halve, between 1990 and 2015, the proportion of people whose income is less than $1.25 a day and to achieve full and productive employment and decent work for all, including women and young people.
\item 15 State of Food Insecurity, supra note 1, at 8, Table 1.
\item 16 Id. at 54, Table A1.1.
\end{itemize}
B. Developments After the 2007-2008 Food Price Crisis

Following the food price crisis in the 1970s, the world experienced more than three decades of relatively low and generally declining food prices. During 2007 and 2008, however, food prices jumped dramatically, creating another food price crisis. Estimates suggest that the increase in food prices during this period contributed to tens of millions additional individuals falling below the poverty line and into chronic hunger.\(^{17}\) The food price crisis of 2007-2008 thrust global food insecurity back into the spotlight and reignited the focus on food prices and the factors that affect prices in the context of combating global hunger. In its wake was a renewed effort by the international community to revisit and reconsider what was needed to address global hunger, leading to a number of new international initiatives focusing on the causes of, and possible solutions to, high and volatile food prices.

Perhaps the most expansive of these new initiatives was the United Nations’ High-Level Task Force on the Global Food Security Crisis (HLTF). The HLTF was established in April of 2008 as a means for bringing together the heads of various United Nations agencies and other international entities—twenty-two in all—addressing global hunger and related issues to develop a unified response by the international community. Since its inception, the HLTF has developed a Comprehensive Framework for Action (CFA) (and an updated CFA) that lays out both short-term and long-term needs. The updated CFA identifies ten principles as key to achieving sustainable food security: (1) a “twin-track” approach of addressing both immediate needs and long-term resilience, (2) a comprehensive approach, (3) a focus on smallholders, (4) an increased focus on the resilience of household livelihoods, (5) increased and better investments in food and nutrition security, (6) open and well-functioning markets and trade, (7) multi-stakeholder and multi-sectoral partnerships, (8) sustained political commitment and good governance, (9) country-led strategies with regional support, and (10)

\(^{17}\) See Stewart & Manaker, supra note 3, at 590.
accountability for results. The HLTF also conducts country-specific work through which it reviews the needs and current activities of individual countries and identifies areas for better coordination and additional action.

A few months after the establishment of the HLTF, the FAO held the High-Level Conference on World Food Security: The Challenges of Climate Change and Bioenergy. During this conference, the attendees—including officials from 181 countries and the European Community—adopted a declaration “calling on the international community to increase assistance for developing countries, in particular the least developed countries and those most negatively affected by high food prices.” The declaration reaffirmed the parties’ commitment to addressing global hunger—including achieving the MDGs—and identified short- and long-term measures to be undertaken, such as increased humanitarian and emergency food assistance, balance of payment support, increased funding for investment in agricultural science and technology, and further liberalization of agricultural trade.

The HLTF and the FAO’s high-level conference were far from the only steps taken to address food prices following the 2007-

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2008 crisis. The multitude of efforts pursued by the international community reflect not only the continued priority placed on addressing food security, but also the ever-present challenges that must be overcome to eradicate global hunger.

In addition to the efforts of the international community, national governments have taken extensive steps as well. As explained by Jonathan Shrier, Acting Special Representative for Global Food Security at the United States Department of State, the United States is:

leading a global effort along with multi-lateral organizations, partner countries, other donors, the private sector, and civil society to increase support for food and nutrition security in the global policy agenda and to work with our partners to end extreme poverty in the next two decades, a target President Obama identified in his State of the Union address [in 2013].

Following the G8 summit in 2009, the United States developed the Feed the Future initiative, stemming from the commitment to pledge an additional $3.5 billion over three years to combat poverty and hunger. Through the Feed the Future program, nineteen “focus” countries have been selected thus far—based on the level of need, opportunity of partnership, potential for agricultural growth, opportunity for regional synergy, and resource

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22 Other actions adopted after the 2007-2008 food price crisis include the Statement on Food Security issued at the G8 leader’s summit in July 2008, the “L’Aquila” Joint Statement on Global Food Security adopted at the G8 meeting in July 2009, the Declaration of the World Summit on Food Security issued in November 2009, the Multi-Year Action Plan on Development endorsed by the G20 at its November 2010 summit, and the launching of the Agricultural Market Information System as part of the G20 leader’s summit in November 2011.


24 See Progress Report, supra note 5, at 5.
availability—for which country-led plans have been established.  

The country plans focus on inclusive agricultural sector growth, gender integration, improved nutrition, private sector engagement, research and capacity building, and climate smart development.  

In 2012, Feed the Future launched the New Alliance for Food Security and Nutrition, which is a joint partnership program focused on investment in African agriculture through commitments by the target-countries’ national governments, private sector companies, and other donor partners, with a goal of lifting fifty million people out of poverty by 2022.  

Similarly, the European Union has also undertaken significant efforts to address global hunger. EuropeAid is the European Commission’s body responsible for designing and implementing the European Union’s development policies and aid programs.  

Under EuropeAid, between 2007 and 2013, the European Union financed global food security projects through three types of instruments: national and regional development funds, such as the European Development Fund and the Development Co-operation Instrument; the Food Security Thematic Programme (FSTP), which addresses the structural causes of continental and regional food security issues; and the €1 billion Food Facility, which provides rapid assistance to countries that are most affected by the crisis. While the development funds and the FSTP focus on longer-term goals, the Food Facility was developed in response to the food crisis in 2007-2008.  

The European Union established this fund primarily to

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25 See id. at 8.
30 Id.
address the time-period between emergency aid and medium-to-long term assistance, with a focus on “encourag[ing] a positive supply response from the agricultural sector in target countries and regions, mitigat[ing] the negative effects of volatile food prices . . . and[] strengthen[ing] the productive capacities and the governance of the agricultural sector to enhance the sustainability of interventions.”

By May 2010, all funds had been committed, with 232 projects executed in forty-nine countries.32

The above-described actions taken by the United States and European Union in the wake of the 2007-2008 food price crisis represent only some of the many steps that have been taken by these governments as well as governments of numerous other countries around the world.

II. Food Security and the International Trade Regime

Since the establishment of the GATT and the development of the modern international trade regime, agriculture has been part of the system, but for many years was not subject to meaningful disciplines or broad liberalization requirements. With the start of the WTO in 1995, Members adopted the first agricultural goods agreement to discipline trade-distorting policies and begin trade liberalization through tariff reductions. Due in part to food security concerns, the GATT and the WTO have always had special carve-outs to permit countries to limit exports to deal with food shortages. In addition, in the Uruguay Round Agreements, the Agreement on Agriculture acknowledges the special needs of developing countries—particularly LDCs and net-food importing developing


32 Id. at 4, 10.

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countries (NFIDCs). Resulting provisions have been aimed at ensuring that trade rules would not inhibit countries’ ability to obtain food security and helping developing countries obtain the full benefit of liberalized trade rules. Still, as barriers to agriculture tend to be high compared to industrial goods, and because the GATT/WTO negotiating process encourages progressive liberalization over time, the reduction in barriers to agriculture lags compared to what has been achieved in non-agricultural goods.

A. General Agreement on Tariffs and Trade

When the GATT was first implemented in 1947, it encompassed agricultural goods. In reality, however, numerous exceptions meant that few disciplines were actually put in place on trade in agriculture:

In some cases, the GATT adopted special rules with respect to agriculture; in other cases, nations gained special treatment by explicit waivers, reservations in accession agreements, or informal ‘grandfather’ agreements. Still other policies were nominally addressed by the GATT, but in practice the provisions had little or no effect.

Differing treatment for agricultural goods with respect to export subsidies and import restrictions, as well as limited disciplines on state-trading enterprises and measures, such as voluntary export restraints and variable import levies, allowed governments to

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33 Net-food importing countries are least-developed countries as identified by the U.N., plus additional countries designated as such by the WTO. See Committee on Agriculture, *WTO List of Net Food-Importing Developing Countries for the Purpose of the Marrakesh Ministerial Decision on Measures Concerning the Possible Negative Effects of the Reform Programme on Least-Developed and Net Food-Importing Developing Countries (“The Decision”), G/AG/5/Rev.10* (Mar. 23, 2012), https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009- DP.aspx?language=E&CatalogueIdList=106907&CurrentCatalogueIdIndex=0&F ullTextSearch=.  

continue to provide protection to their domestic agriculture sectors. For example, the general prohibition on export subsidies (effective January 1, 1958) excluded “primary products,” which included “any product of farm, forest or fishery.”35 Most countries employed a number of policies aimed at assisting their domestic agriculture sectors, taking different approaches depending on the circumstances of the particular nation. While many developed countries implemented border measures to increase domestic prices and used export subsidies when domestic supply exceeded demand, developing countries tended to utilize policies that would lower prices for consumers coupled with subsidies for agricultural inputs.36 The “GATT rules pertaining to agriculture were originally drafted to be consistent with the agricultural policies of the major signatories, rather than vice versa.”37

The differing treatment afforded to agriculture is unsurprising given the role of agriculture not only in the economy, but also in people’s everyday lives. “The general consensus of opinion was that agriculture was a unique sector of the economy, that, for reasons of national food security, could not be treated like other sectors.”38 Indeed, since its initiation, the global trade regime has recognized the importance of promoting nations’ ability to protect their food sources and sought to develop rules that work with food security goals. In addition to the flexibility of the GATT rules when it came to agriculture, the agreement also included a provision explicitly recognizing countries’ ability to take steps to protect their populations from food shortages. GATT Article XI, which generally

37 Breen, supra note 34, at 134 (footnote omitted).
38 Stephen Healy et al., The Implications of the Uruguay Round Agreement on Agriculture for Developing Countries – A Training Manual (Training Materials for Agricultural Planning – 41), at §1.1.3 (FAO 1998), http://www.fao.org/docrep/w7814e/w7814e00.htm#Contents.
prohibits quantitative restrictions, does not extend to “[e]xport prohibitions or restrictions temporarily applied to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party.” The result of the GATT’s limited effect on agricultural trade, however, was that trade in agriculture remained heavily affected by trade-distorting policies used around the globe.

B. Uruguay Round Agreements and the Agreement on Agriculture

The limited disciplines placed on agriculture under the GATT created problems within the international trade regime, and there was recognition among the parties to the GATT that the system did not adequately address agricultural trade. Agriculture was the focus of a number of trade disputes, and increased subsidization by developed nations negatively affected developing country agricultural exporters that could not compete with heavily subsidized products. The declaration adopted at the 1982 Ministerial identified a number of problems with the trade regime, including “widespread dissatisfaction with the application of GATT rules and the degree of liberalization in relation to agricultural trade, even though such trade ha[d] continued to expand.” Having recognized the need for further liberalization, adjustments, and/or reforms in many areas, the parties to the GATT launched the Uruguay Round negotiations in 1986. Among other areas, these negotiations placed agriculture squarely on the agenda.

The special needs of developing countries, and the need to grant these countries preferential and differential treatment, were

39 GATT, supra note 35, art. XI(2)(a).
40 See Terence P. Stewart, Introduction and Overview, in THE GATT URUGUAY ROUND: A NEGOTIATING HISTORY (1986-1992) 1, 7 (Terence P. Stewart ed., 1993) [hereinafter Introduction and Overview]; Healy, supra note 38, §1.1.3 (noting that sixty percent of all trade disputes under the GATT between 1980 and 1990 were related to agriculture).
acknowledged from the outset of the Uruguay Round negotiations,\textsuperscript{42} including in the negotiations on agriculture.\textsuperscript{43} In addition, in the course of the negotiations, net-food importing countries—both developed (such as Japan) and developing (such as Egypt)—as well as other developing nations made clear the importance of food security concerns in the context of the agriculture negotiations.\textsuperscript{44} These concerns related to the ability to protect domestic production of basic foodstuffs (and domestic farmers), as well as access to and the cost of food imports.\textsuperscript{45} The ultimate agreement reached at the conclusion of the Uruguay Round negotiations establishing the WTO included the Agreement on Agriculture (AoA), which started the process of liberalizing trade in agriculture and also aimed to help promote food security concerns.\textsuperscript{46}

1. The Agreement on Agriculture: The Basics. – The AoA is based on three pillars—market access, domestic support, and export subsidies—through which greater liberalization is pursued. The differential treatment provided to developing countries, and to LDCs in particular, is present in each of these aspects of the agreement. With respect to market access, the AoA establishes a system where import barriers, such as quantitative import restrictions, are converted to tariffs (known as “tariffication”) and then reduced. Specific targets were identified for both the average cut in tariffs on agricultural goods as well as a minimum cut per product. Developing countries were committed to making smaller reductions and were provided with more time than developed countries (ten years versus six years); LDCs did not have to make a commitment to reduce tariffs, although they did have to establish tariff bindings for agricultural goods. In addition, where imports constitute less than

\textsuperscript{42} Id. at 2, 5.
\textsuperscript{43} See Introduction and Overview, supra note 40, at 11-13.
\textsuperscript{44} See Breen, supra note 34, at 186-91; see General Agreement on Tariffs and Trade, Negotiating Group on Agriculture: Statement Made by the Delegation of Egypt on Behalf of a Number of Net Food-Importing Developing Countries, GATT Doc. MTN.GNG/NG5/W/101 (July 31, 1989), available at http://www.wto.org/gatt_docs/English/SULDFT92080019.pdf.
\textsuperscript{45} See Breen, supra note 34, at 186-93.
five percent of domestic production for a particular product, Members were committed to allowing a minimum amount of imports of that product under low or minimal tariffs, implemented through tariff-rate quotas.\textsuperscript{47}

The AoA also includes a safeguard provision under Article 5. Pursuant to this provision, a Member may impose an additional tariff on products in response to an import surge or a decrease in import prices if certain triggering criteria are met.\textsuperscript{48} This safeguard, however, is somewhat limited. The safeguard may only be used for products that a country has designated as subject to the safeguard in its tariff schedule. The safeguard is also limited to products that have been tariffed. Many developing Members chose to impose ceiling bindings (i.e., bindings on previously unbound products) and were not required to reduce the base rate for these products;\textsuperscript{49} thus, these countries effectively opted out of the right to utilize the safeguard.\textsuperscript{50}

With respect to domestic support, the AoA distinguishes between programs that directly relate to production and those that do not, permitting the latter and limiting the former. Members agreed to reduce domestic support policies that directly affect production and trade, known as “amber box” programs, based on a calculation known as the “aggregate measurement of support” (AMS). As with the market access provisions, developing countries committed to make smaller reductions and were granted a longer implementation period than developed countries, and LDCs were not required to make any cuts. In addition, Members are permitted to maintain de minimis levels of subsidies—five percent of the value of agricultural

\textsuperscript{47} Under a tariff-rate quota system, a certain quantity of a good is subject to a low tariff; once the threshold quantity has been imported, additional imports of that good face a higher tariff rate.

\textsuperscript{48} Marrakesh Agreement Establishing the World Trade Organization, Apr. 15, 1994, Annex 1A, 1867 U.N.T.S. 410, art. 5, \url{http://www.wto.org/english/docs_e/legal_e/14-ag_01_e.htm} [hereinafter Agreement on Agriculture].

\textsuperscript{49} Healy, \textit{infra} note 38, § 3.2.1.

\textsuperscript{50} See Agriculture: Negotiations, An Unofficial Guide to Agriculture Safeguards, WTO (Aug. 5, 2008), \url{http://www.wto.org/english/tratop_e/agric_e/guide_agric_safeg_e.htm}. 

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production for developed countries and ten percent for developing countries. Programs with little or no impact on trade, known as “green box” programs, are not limited under the AoA. Similarly, “blue box” programs, which are programs that would be considered as “amber box” but have conditions to reduce distortion and limit production, are not limited.\footnote{51}

Finally, with respect to export subsidies, the AoA capped existing programs and committed Members to reducing the amount spent on, and the products covered by, such programs. The provision encompasses direct subsidies based on export performance, the export sale of non-commercial stocks of agricultural products for less than the price charged in the domestic market, payment on the export of agricultural products, programs reducing the cost of producing goods for export, the preferential internal transportation and freight charges for exported goods, and subsidies on products incorporated into exported goods.\footnote{52} As with the other areas, developing countries committed to smaller reductions over a longer period of time as compared to developed countries, and LDCs are not obligated to make any cuts. A summary of the trade liberalization commitments made under the AoA is below.


\footnote{52} Agreement on Agriculture, supra note 48, art. 9.
### Tariffs

<table>
<thead>
<tr>
<th>Developed Countries</th>
<th>Developing Countries</th>
<th>Least-Developed Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Cut For All Agricultural Products</td>
<td>-36%</td>
<td>-24%</td>
</tr>
<tr>
<td>Minimum Cut Per Product</td>
<td>-15%</td>
<td>-10%</td>
</tr>
</tbody>
</table>

#### Tariff Quotas

<table>
<thead>
<tr>
<th></th>
<th>Developed Countries</th>
<th>Developing Countries</th>
<th>Least-Developed Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Access Opportunity As % of Domestic Consumption (Base Period: 1986-1990)</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

#### Domestic Support

<table>
<thead>
<tr>
<th></th>
<th>Developed Countries</th>
<th>Developing Countries</th>
<th>Least-Developed Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total AMS Cuts For Sector (Base Period: 1986-1988)</td>
<td>-20%</td>
<td>-13%</td>
<td>No cuts required</td>
</tr>
</tbody>
</table>

#### Export Subsidies

<table>
<thead>
<tr>
<th></th>
<th>Developed Countries</th>
<th>Developing Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Of Subsidies</td>
<td>-36%</td>
<td>-24%</td>
</tr>
<tr>
<td>Subsidized Quantities (Base Period: 1986-1990)</td>
<td>-21%</td>
<td>-14%</td>
</tr>
</tbody>
</table>


2. *Food Security and the Agreement on Agriculture.* – In addition to the basic pillars of the agreement, the AoA also addressed a variety of other issues as well as food security concerns, particularly within
LDCs and NFIDCs, as was reflected in various aspects of the AoA. Indeed, the preamble to the AoA notes that:

[C]ommitments under the reform programme should be made in an equitable way among all Members, having regard to non-trade concerns, including food security[,] . . . [and] that special and differential treatment for developing countries is an integral element of the negotiations, and taking into account the possible negative effects of the implementation of the reform programme on least-developed and net food-importing developing countries[.]

Thus, the AoA sought to develop rules and commitments that would help protect countries’ abilities to address food security concerns.

For example, Annex 2 to the AoA provides that public stockholding for food security purposes54 and domestic food aid may be treated as “green box” programs if they meet the general requirements—i.e., are provided through a publically-funded government program and do not provide price support to producers—as well as other program specific criteria. Likewise, Article 6 recognizes that, because encourag[ing] agriculture and rural development are an integral part of the development programmes of developing countries, investment subsidies which are generally available to agriculture in developing country Members and agricultural input subsidies generally available to low-income or resource-poor producers in developing country Members shall be exempt from domestic support reduction

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53 Id. at pmbl.
54 If stocks are acquired and released at administered prices, the difference between the acquisition price and a set external price would be included in that country’s total AMS.
commitments that would otherwise be applicable to such measures . . . \textsuperscript{55}

In addition, while export restrictions or prohibitions are still permitted under certain circumstances by GATT Article XI, AoA Article 12 requires that any Member imposing a restriction or prohibition on exports of foodstuffs “give due consideration to the effects” of such a measure on importing Members’ food security. Additionally, prior to implementing such a measure, a Member should provide written notice to the Committee on Agriculture with information on specifics of the measure and, upon request, consult with other Members that have interests as importers.\textsuperscript{56}

Moreover, AoA Article 16 requires that developed country Members follow the framework established in the Decision on Measures Concerning the Possible Negative Effects of the Reform Programme on Least-Developed and Net-Food Importing Developing Countries (NFIDC Decision). The NFIDC Decision, which was adopted as part of the Uruguay Round negotiations, was based on the recognition that

while the progressive implementation of the results of the Uruguay Round as a whole will generate increasing opportunities for trade expansion and economic growth to the benefit of all Members, during the reform programme least-developed and net-food importing developing countries may experience negative effects in terms of the availability of adequate supplies of basic foodstuffs from external sources on reasonable terms and conditions, including short-term difficulties in financing normal levels of commercial imports of basic foodstuffs.\textsuperscript{57}

\begin{flushleft}
\textsuperscript{55} Agreement on Agriculture, supra note 48, art. 6.
\textsuperscript{56} Id. at art. 12(1); but see art. 12(2) (stating that the provisions do not apply to developing countries, except when the developing country is a net-food exporter of the product at issue).
\end{flushleft}
Thus, the NFIDC Decision established a number of mechanisms to help ensure countries would have adequate access to food, including periodic reviews of the sufficiency of the levels of food aid provided to developing countries, the adoption of guidelines to ensure the provision of basic foodstuffs to LDCs and NFIDCs is “in fully grant form and/or on appropriate concessional terms,” the consideration of requests by LDCs and NFIDCs for technical and financial assistance related to agricultural productivity and infrastructure, the provision of preferential treatment for LDCs and NFIDCs regarding rules on agricultural export credits, and recognition that developing countries may need to rely on international financial institutions for short-term financing of imports.\textsuperscript{58} In short, in negotiating the AoA, Members aimed to take account of the effect of agricultural trade and trade rules on food security.\textsuperscript{59}

C. Doha Development Agenda

While substantial progress was made with the Uruguay Round negotiations in terms of agricultural liberalization and addressing food security issues, the AoA represents the first real attempt at tackling these issues within the international trade regime. As noted above, the WTO and its predecessor, the GATT, have developed through periodic negotiations that have achieved progressive liberalization. The Uruguay Round negotiations were not intended to, nor would they have been likely to, resolve all issues concerning trade in agriculture. Instead, the negotiations recognized the need for progressive reforms in agricultural trade. In fact, Article 20 of the AoA included an agreement among Members that agriculture negotiations would begin one year prior to the end of the

\textsuperscript{58} Decision on Measures Concerning the Possible Negative Effects of the Reform Programme on Least-Developed and Net-Food Importing Developing Countries, LT/UR/D-1/2, 15 April 1994.

\textsuperscript{59} WTO Secretariat, supra note 57, at 22-23.
AoA’s implementation period.\footnote{See Breen, supra note 34, at 166-67 (noting that the problems surrounding agricultural trade “are substantial and wide-ranging” and suggesting that “[c]omprehensive agricultural reform on a global scale” was not likely in the short term); Agreement on Agriculture, supra note 45, at art. 20 (“Recognizing that the long-term objective of substantial progressive reduction in support and protection resulting in fundamental reform is an ongoing process, Members agree that negotiations for continuing the process will be initiated one year before the end of the implementation period . . . .”).} Thus, in 2000, Members again turned to negotiations to further liberalize agricultural trade.\footnote{See Agriculture: Fairer Markets for Farmers, supra note 51.}

Soon after, during the November 2001 Ministerial Conference in Doha, agriculture became part of the single undertaking known as the Doha Development Agenda (DDA), which encompassed negotiations on a wide variety of areas and put the “needs and interests” of developing countries “at the heart” of the negotiations.\footnote{World Trade Organization, Ministerial Declaration, WT/MIN(01)/DEC/1, ¶ 2 (Nov. 14, 2001), available at http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm.} With respect to agriculture, the Doha Ministerial Declaration espoused the commitment of the Members to undertake “comprehensive negotiations aimed at: substantial improvements in market access; reductions of, with a view to phasing out, all forms of export subsidies; and substantial reductions in trade-distorting domestic support.”\footnote{Id. at ¶14.} The declaration also recognized that special and differential treatment was appropriate for developing countries and that the rules and disciplines to be negotiated should “enable developing countries to effectively take account of their development needs, including food security and rural development.”\footnote{Id.}

Although the DDA negotiations collapsed in 2008, due in part to an inability to agree on agriculture issues, the multiple rounds of negotiations have resulted in discussions on a variety of agriculture and food security related issues. In addition to achieving further liberalization in the three pillars of the AoA, Members are also seeking to address various other issues related to agriculture, many of
which aim to address concerns of developing countries, LDCs, and NFIDCs. Provided below is a review of the main areas of the agriculture negotiations under the DDA. As Members have not been able to come to an agreement, and as many of these topics remain highly contentious, this represents some of the issues and potential provisions that had been discussed as of December 2008. At the Bali Ministerial Conference in December 2013, the Members agreed to develop a work program in 2014 to move the DDA to completion. Whether that effort will succeed and under what time period are, of course, unknown at present.

1. Market Access. – With respect to market access, Members have discussed further reductions to bound tariff rates for both developed and developing counties, with developing countries committed to smaller reductions (with even smaller reductions for certain small and vulnerable economies) and LDCs, as well as certain other new Members, not committed to reductions. The amount of the reduction would be tied to the current bound tariff level, with larger reductions required for goods with higher tariffs. Tariff reductions would also be applied to in-quota tariff rates. The discussed provisions contain flexibilities in terms of reduced commitments for politically sensitive products (available to all Members) and special products (for developing country Members), i.e., products related to food security and rural development. The table below provides a summary of the general tariff reduction commitments discussed.

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<table>
<thead>
<tr>
<th>Developed Countries</th>
<th>Developing Countries*</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Years</td>
<td>10 years</td>
</tr>
<tr>
<td>Tariffs above 75% cut by 70%</td>
<td>Tariffs above 130% cut by 46.7%</td>
</tr>
<tr>
<td>Tariffs between 75% and 50% cut by 64%</td>
<td>Tariffs between 130% and 80% cut by 42.7%</td>
</tr>
<tr>
<td>Tariffs between 50% and 20% cut by 57%</td>
<td>Tariffs between 80% and 30% cut by 38%</td>
</tr>
<tr>
<td>Tariffs below 20% cut by 50%</td>
<td>Tariffs below 30% cut by 33.3%</td>
</tr>
<tr>
<td>Minimum average cut of 54%</td>
<td>Maximum average cut of 36%</td>
</tr>
</tbody>
</table>

* LDCs and certain recent new Members would be exempt from tariff reduction commitments; small and vulnerable economies would be obligated to further-reduced commitments.


2. Domestic Support. – In terms of domestic support, Members have discussed further reductions to trade-distorting programs, including amber box, blue box, and *de minimis* level programs; there have also been discussions to limit product-specific support for both amber and blue box programs. Larger reductions would be required for countries with larger amounts of support. Developing countries would be subject to smaller reductions, and LDCs and NFIDCs would be exempt from reduction commitments. 66 Revisions to the treatment of programs as green box programs have also been discussed, with the objective of allowing more development-related programs to be characterized as green box and ensuring that green box programs actually are separated from production levels. For example, included among programs that could be considered green box government service programs would be, *inter alia*, programs related to nutritional food security. In addition, there have been proposals to exempt public stockholding and domestic food aid to support low-income or resource-poor farmers for hunger and poverty reduction purposes from developing countries’ AMS

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66 Recent new Members would be subject to smaller cuts or exempt from reduction commitments.
calculations. The table below provides a summary of the general domestic support reduction commitments discussed.

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67 Revised Draft Modalities for Agriculture, supra note 65, at Annex B.
68 As this table is intended to reflect only the general commitments, it does not include certain country-specific commitments (such as for recent new Members) nor does it include per-product limits.
## Overall Trade-Distorting Domestic Support (Amber Box + Blue Box + De minimis)

<table>
<thead>
<tr>
<th></th>
<th>Developed Countries</th>
<th>Developing Countries (if support is above de minimis)</th>
<th>Developing Countries (if support is below de minimis)</th>
<th>LDCs and NFIDCs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Timeframe</strong></td>
<td>5 years</td>
<td>8 years</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Highest Tier</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Support</td>
<td>-80%</td>
<td></td>
<td></td>
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<tr>
<td><strong>Middle Tier</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Support</td>
<td>-70%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>-55%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Immediate Cuts</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Highest Tier &amp;</td>
<td>-33% for highest &amp;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle Tier</td>
<td>middle tier;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-25% for lower tier</td>
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<td></td>
<td></td>
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<tr>
<td><strong>Amber Box Support</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Timeframe</strong></td>
<td>5 years</td>
<td>8 years</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Highest Tier</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>-70%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Middle Tier</strong></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Support</td>
<td>-60%</td>
<td></td>
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<tr>
<td><strong>Lower Tier</strong></td>
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</tr>
<tr>
<td>Support</td>
<td>-45%</td>
<td></td>
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<tr>
<td><strong>Immediate Cuts</strong></td>
<td></td>
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</tr>
<tr>
<td>Highest Tier &amp;</td>
<td>-25% (for highest &amp;</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Middle Tier</td>
<td>middle tier only)</td>
<td></td>
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<tr>
<td><strong>De Minimis Support</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Developed Countries</td>
<td>Developing Countries</td>
<td>Developing Countries</td>
<td>LDCs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(if support is above $100 million)</td>
<td>(if support is below $100 million)</td>
<td></td>
</tr>
</tbody>
</table>
3. Export Subsidies and Other Export-Related Measures. – Members have discussed eliminating all export subsidies over a set period of time, with more time granted for developing countries than for developed countries. With respect to export credits, export credit guarantees, and insurance programs, these measures would be disciplined to ensure that they do not act as hidden subsidies. Disciplines imposed would be more lenient for developing countries, LDCs, and NFIDCs. In addition, disciplines would be imposed on the activities of state-trading enterprises that engage in agricultural exports, which would require Members to eliminate or reduce export subsidies and the use of monopoly powers for such enterprises.69 In certain developing countries, LDCs, and small, vulnerable economies,70 however, agricultural exporting state-trading enterprises that preserve domestic prices for consumers and ensure food security

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69 Revised Draft Modalities for Agriculture, supra note 65, at Annex K.
70 Small, vulnerable economies are WTO Members that are especially vulnerable to economic uncertainties and environmental shocks, determined by their share of world trade. See Briefing note: Small, Vulnerable Economies, WORLD TRADE ORG., http://www.wto.org/english/thewto_e/minist_e/min11_e/brief_svc_e.htm (last visited Oct. 7, 2014).
could maintain and use monopoly powers.\textsuperscript{71} Finally, tighter disciplines would be imposed for countries implementing an export prohibition or restriction under GATT Article XI(2)(a), and increased transparency regarding and monitoring of such measures would be required. The need for additional disciplines on the use of export restrictions or prohibitions was highlighted during the food price crises of 2007-2008 and 2010-2011, during which a number of countries imposed such measures with only a few apparently providing notification to the WTO. A report on the trade measures of the G20 countries indicates that, between October 2008 and May 2012, fourteen of these twenty countries (all of which are WTO Members) imposed quantitative restrictions on agricultural exports,\textsuperscript{72} other reports indicate that during the 2007-2008 food price crisis alone, around forty countries put food export restrictions or prohibitions in place.\textsuperscript{73} In comparison, from January 1995 to early 2013, only eight Members notified the WTO of quantitative restrictions on agricultural exports.\textsuperscript{74}

4. Safeguards. – With respect to the safeguard provision currently in the AoA, Members have discussed reducing the products subject to the provision and implementing a phase-out date. There has also been a proposal for a new special safeguard mechanism (SSM) that would allow developing countries to temporarily increase tariffs to protect domestic producers facing import surges and price drops. While there is agreement that a SSM should exist, there has not been agreement on exactly what can trigger usage of the safeguard, the tariff increase that can be imposed, and how long the

\textsuperscript{71} Revised Draft Modalities for Agriculture, supra note 65, at Annex K.

\textsuperscript{72} Committee on Agriculture, Transparency Opportunities – Export Restrictions, ¶ 1.2, G/AG/W/113 (Sept. 16, 2013) [hereinafter Transparency Opportunities].


\textsuperscript{74} Transparency Opportunities, supra note 72, at ¶ 1.2.
increase should be applied. In particular, there has been contention as to whether a SSM would allow developing countries to impose tariffs above the bound rates agreed upon during the Uruguay Round (or during accession for those Members that joined post-Uruguay).

5. Food Aid. – With respect to international food aid, aid would be treated differently depending on whether or not it was provided in response to an emergency. Emergency food aid—based on whether an applicable international organization has declared an emergency—would be treated as being in a “safe box” so as not to impede the provision of such aid. Non-emergency food aid would be disciplined in a manner to prevent it from displacing commercial trade in the recipient country. Specifically, the Members discussed requiring that food aid be needs-driven, in grant form, not tied to commercial exports of agriculture, not linked to the donor’s development objectives, and not re-exported (except in limited situations). Members would also be committed to not providing in-kind food aid that could adversely affect production in the recipient country and would be encouraged to source food aid from within or nearby the recipient country.

6. Monitoring and Transparency. – In addition to the specific requirements, most areas of negotiation have also discussed the need for increased transparency in terms of the steps Members take under the various provisions, as well as mechanisms for monitoring the progress and activities under these provisions. Such provisions are aimed at ensuring that Members keep each other informed of measures related to agricultural trade and the AoA obligations.

Notification requirements would concern Members utilizing quotas, safeguards, domestic support measures and export subsidies, providing export financing or international food aid, or maintaining agricultural exporting state trading enterprises. Developing countries would also be provided with advice and assistance in

76 Revised Draft Modalities for Agriculture, supra note 65, at Annex L.
77 Id. at Annex M.
pursuit of meeting their notification obligations.78 In addition, the Committee on Agriculture, as well as other working bodies, would be tasked with “provid[ing] an effective forum for Members to monitor compliance with commitments and disciplines under the [AoA] and [undertaking] surveillance of progress towards the long-term objective of establishing a fair and market-oriented agricultural trading system.”79 This would include reviewing the implementation of commitments and obligations regarding, inter alia, the NFIDC Decision, special and differential treatment provisions related to development concerns, and notifications of food aid and export prohibitions.80

7. Trade Facilitation. – Issues relating to trade facilitation are present in GATT Articles V, VIII, and X, which concern the free transit of goods, the imposition of fees and other requirements relating to imports and exports, and the publication and administration of measures relating to areas such as classification, valuation, and import and export requirements. These provisions, however, do not have specific frameworks for certain areas, such as customs procedures or transparency requirements.81 The potential to enhance provisions on trade facilitation was raised during the first WTO Ministerial Conference in Singapore in 1996. During this ministerial, the Members agreed to have the Council for Trade in Goods “undertake exploratory and analytical work... on the simplification of trade procedures in order to assess the scope for WTO rules” and to give “careful attention... to minimizing the burdens on delegations, especially those with more limited resources.”82 The Ministerial Declaration adopted during the Doha Ministerial also identified trade facilitation as an area in which

78 Id.
79 Id.
80 Id.
negotiations should take place, “[r]ecognizing the case for further expediting the movement, release and clearance of goods, including goods in transit, and the need for enhanced technical assistance and capacity building in this area.” Following years of exploratory work, negotiations on trade facilitation were finally launched in July 2004.

The negotiations on trade facilitation aimed to address issues relating to the expeditious movement, release, and clearance of goods; enhanced technical assistance and capacity building; and effective cooperation between customs and other authorities. In addition to acknowledging the need for special and differential treatment regarding the commitments undertaken by developing countries and LDCs, the negotiations also “recognized that the provision of technical assistance and support for capacity building is vital for developing and least-developed countries to enable them to fully participate in and benefit from the negotiations” and sought to require that developed Members ensure that sufficient support and assistance would be provided to developing countries and LDCs during negotiations. As discussed below, an agreement on trade facilitation was adopted as part of the “mini-package” agreed upon during the 2013 Bali Ministerial.

D. Aid for Trade Program

During the 2005 Ministerial Conference in Hong Kong, the WTO launched the Aid for Trade program. The program was developed based on the understanding that developing countries, and LDCs in particular, needed to grow their trade capacity and infrastructure to fully benefit from liberalized trade. The focus of the Aid for Trade program is to help the existing development assistance

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86 Id.
mechanisms work together and more effectively and to ensure that development agencies understand the trade needs of those receiving assistance.87 Four areas have been specifically identified as needing aid: (1) trade policy and regulation, (2) economic infrastructure, (3) productive capacity building, and (4) adjustment assistance. The program is used to identify needs within recipient countries; act as a bridge between donors and developing countries; and monitor aid flows, commitments, and needs.88

The Aid for Trade program was not the first recognition by the international community of the importance of trade assistance, and aid for trade-related assistance has been provided for many years.

During the 1986-1994 Uruguay Round of trade negotiations, trade-related assistance was mainly aimed at technical support to help developing countries negotiate and implement trade agreements. Subsequently, the scope expanded to include building supply-side capacities . . . . Now, the agenda also includes trade-related structural adjustment programmes and other trade-related needs.89

However, the adoption of this program highlights the WTO’s understanding that the global trade regime “has a clear role and responsibility for ensuring that countries can effectively participate in—and benefit from—world trade.”90 Since the program moved into its first stage of implementation in 2007, the Aid for Trade program has seen positive, wide-reaching results. In the course of

87 See Aid for Trade Fact Sheet, WORLD TRADE ORG., http://www.wto.org/english/tratop_e/devel_e/a4t_e/a4t_factsheet_e.htm (last visited Apr. 20, 2014).
90 Aid for Trade Fact Sheet, supra note 87.
conducting its third annual review in 2010, the Organization for Economic Cooperation and Development (OECD) and the WTO jointly sent out a request for “case stories” relating to the Aid for Trade program; 269 case stories were submitted by countries, bilateral and multilateral donors, regional economic communities, and other entities. These case studies related to projects covering the development of public sector human capacities, improved policies, hard infrastructure (e.g., roads, ports), soft infrastructure (e.g., regulatory frameworks), industry-specific policies, and support for the private sector. Moreover, of the 269 case stories, thirty-three were submitted by LDCs and 123 concerned activities undertaken in LDCs, indicating that LDCs have been significant participants in the Aid for Trade program as was intended.

E. Bali Package

Following the collapse of the DDA negotiations in 2008, Members called for a change to the approach of the negotiations during the 2011 Ministerial Conference in an effort to get negotiations back on track. The Members decided to focus on a “mini-package” of issues for which it was believed that agreement would be more likely. The mini-package encompassed a variety of issues that were already part of the DDA, including trade facilitation, agriculture, cotton, development, and LDC-related issues. Despite eleventh hour negotiations and some indications that an agreement would not be reached, the Bali Ministerial Conference concluded on December 7, 2013 with a package of adopted decisions.

92 Id. at 22.
93 Id. at 23.
Among the adopted decisions were a number of provisions relating to agriculture, developing countries, and food security. First, Members recognized the continuing need among developing countries and LDCs for trade-related assistance and reaffirmed their commitment to Aid for Trade.\(^95\) Second, Members agreed to expand the list of government programs that could be treated as green box programs to include programs related to land reform and rural livelihood security for the purpose of promoting development and alleviating poverty.\(^96\) Third, there was an interim agreement that Members would refrain from challenging a developing country Member that exceeded its domestic support limits because of public stockholding for food security purposes; this provision is only intended to remain in place until a permanent solution is agreed upon.\(^97\) Fourth, Members adopted additional disciplines regarding the administration and monitoring of tariff-rate quotas, which aim to address situations where quotas are persistently under-filled and to ensure that the quotas do not serve as an additional barrier to trade.\(^98\) Fifth, Members reaffirmed their commitment to eliminate export subsidies.\(^99\) Sixth, Members adopted an agreement on trade facilitation that requires Members to undertake a number of

\(^{95}\) World Trade Organization, Ministerial Declaration of 7 December 2013, WT/MIN(13)/34 (2013).

\(^{96}\) World Trade Organization, Ministerial Declaration of 7 December 2013, WT/MIN(13)/37 (2013).

\(^{97}\) World Trade Organization, Ministerial Declaration of 7 December 2013, WT/MIN(13)/38. To rely on this provision, the developing country Member’s program must meet the criteria established in Annex 2 of the AoA and the Member must provide notice of, and additional information on, such a measure to the Committee on Agriculture. Id.

\(^{98}\) World Trade Organization, Ministerial Declaration of 7 December 2013, WT/MIN(13)/39; see Agriculture Negotiations, supra note 94.

\(^{99}\) World Trade Organization, Ministerial Declaration of 7 December 2013, WT/MIN(13)/40 (2013). Preferential country-of-origin rules for LDC products, preferential trade in services provisions for LDCs, and additional monitoring of the special and differential treatment provided to developing countries and LDCs were also agreed upon. World Trade Organization, Bali Ministerial Declaration and Decisions of 7 December 2013, WT/MIN(13)/DEC (2013), http://wto.org/english/thewto_e/minist_e/me9_e/balipackage_e.htm#agriculture.
commitments to ease the movement of goods, including areas such as enhancing the provision of information on export, import, and transit requirements; further disciplining the imposition of fees and other charges; ensuring interested parties’ participation in developing new measures and their ability to challenge customs determinations; and improved cooperation between customs agencies. The trade facilitation agreement also recognizes that developing countries and LDCs should be provided with assistance and support for capacity building and states that LDCs will be required to undertake commitments only “to the extent consistent with their individual development, financial and trade needs or their administrative and institutional capabilities.” Finally, the Members encouraged developed country Members to allow duty-free and quota-free access for at least ninety-seven percent of products originating from LDCs and encouraged developing country Members to provide duty-free and quota-free access to products originating from LDCs to the extent possible.

Despite its ultimate success, the Bali Ministerial faced some significant hurdles and required around the clock negotiations to come to a conclusion. One highly contentious area that almost led to a failure at Bali was the treatment of public stockholding for food security purposes. Under the AoA, public stockholdings that are developed through government purchases at supported prices are treated as amber box programs and are thus limited. In November 2012, the G33 Group (a group of forty-six developing countries) proposed an amendment to exempt from limitation government stockholdings and purchases from low-income or resource-poor farmers at supported prices. There were concerns, however, that a

100 World Trade Organization, Ministerial Declaration of 7 December 2013, WT/MIN(13)/36.

101 Id. at sec. II, ¶ 1.3.

102 World Trade Organization, Ministerial Declaration of 7 December 2013, WT/MIN(13)/44.

103 Agreement on Agriculture, supra note 48, at Annex 2; see Agriculture Negotiations, supra note 94.

104 See Revised Draft Modalities for Agriculture, supra note 65, at Annex B; Agriculture Negotiations, supra note 94.
lack of discipline on public stockholdings developed by purchases at supported prices could result in excess stock being unloaded on the international market at low prices, depressing global prices and negatively affecting other countries.

The concern over public stockholding was exemplified by India’s 2013 Food Security Bill. Faced with hundreds of millions of undernourished people and political pressure via an upcoming election, the Indian government passed a bill aiming to combat the country’s widespread hunger. Part of this bill provided for the government purchase of cereals, with a target purchase quantity of sixty-two million tons, which is equal to about twenty percent of India’s cereal production in 2012.\footnote{See Megha Bahree, How Bad, Really, Is India’s New Food Security Bill, \textit{FORBES}, Sept. 2, 2013, \url{http://www.forbes.com/sites/meghabahree/2013/09/02/how-bad-really-is-indias-new-food-security-bill/}.} The substantial quantity of cereal that could be purchased under this program raises the possibility that large amounts of unused stockpiles could be dumped on the international market, negatively impacting other Members, including other developing countries.\footnote{David Blandford, Professor of Agriculture & Environmental Economics, Penn State University, Remarks at the Penn State Journal of Law and International Affairs Symposium: The 9 Billion People Question: The Challenge of Global Resource Scarcity (Feb. 7, 2014), \url{http://mediasite.dsl.psu.edu/Mediasite/Play/623941f54f854efaaa7bed1a9805b0de1d} (starting at 03:35:39) (noting that when excess stockpiles are dumped on the international market, developing countries can be harmed).} Indeed, since the completion of the Bali Ministerial, Canada and the United States have raised questions concerning India’s exportation of surplus wheat stocks at prices lower than the selling prices of other wheat-producing countries.\footnote{Committee on Agriculture, \textit{Points Raised by Members Under the Review Process}, G/AG/W/116, at 8 (Jan. 17, 2014); Amiti Sen, \textit{India Refutes US, Canada Allegations of Subsidised Wheat Exports}, \textit{HINDU BUS. LINE}, Feb. 10, 2014, \url{http://www.thehindubusinessline.com/economy/india-refutes-us-canada-allegations-of-subsidised-wheat-exports/article5674465.ece}.}
Nonetheless, while some food security-related measures have proven to be highly contentious, these disagreements do not stem from any belief that nations should not be able to protect their populations from food shortages and provide food to those in need. Instead, disagreement reflects concerns that countries can address the needs of their populations in other WTO-consistent ways and thus prevent adding distortions to the trading system.

F. Next Steps

While there is hope that the completion of the mini-package at Bali will reinvigorate negotiations at the WTO, the Members still face a long road to completing the rest of the DDA, with agricultural issues providing no shortage of difficulties. At the same time, the WTO (and the global community as a whole) has had to balance the conflicting needs that often arise in the pursuit of trade liberalization, protection from food shortages, and access to food for vulnerable regions. For example, during a year where there is a food shortage due to weather, Country A may impose an export restriction to protect its domestic supply and ensure access to food for its population; this action, however, may mean that Country B is unable to procure a sufficient supply of food for its population. Both nations are aiming to make sure their populations have enough food. Should the trade rules allow Country A to protect its supply, creating problems for Country B? Or should Country A be prohibited from taking such actions so that Country B may get access to food, but at the expense of Country A’s population? There is, of course, no easy answer. Instead, rules should aim to balance various needs and ensure that, where one action may create a shortcoming, other acts can fill the void. Many of the areas that are part of the DDA seek to pursue such an agenda by addressing further trade liberalization and additional reduction in the presence of trade-distorting subsidies, as well as issues directly related to food security and non-trade issues aimed at helping developing countries in their development goals.

The importance of completing the DDA negotiations, and of continuing to address food security in the context of trade rules, is demonstrated by the types of measures the DDA seeks to address.
As explained by Professor David Blandford, measures that would be affected by the DDA negotiations are those that have “the biggest economic drawbacks” and “ultimately are self-defeating in terms of improving the competitive position of domestic agriculture.”

This is also highlighted by the work of other international organizations. For example, the HLTF’s CFA and updated CFA call for adjustments to trade rules in areas like minimizing export restrictions, reducing import tariffs and other restrictions, improving trade facilitation, promoting agricultural trade, ensuring resources for Aid for Trade, and reducing trade distortions in higher-income countries. These goals are consistent with the objectives of the DDA and, in fact, the updated CFA calls for the completion of the DDA negotiations. Similarly, in May 2011, a group of international organizations prepared a report for the G20 with policy suggestions to address food price volatility concerns. With respect to trade policies, the report recommends that steps be taken to improve market access (but include safeguards for developing countries), reduce trade-distorting domestic support, eliminate export subsidies, and strengthen rules regarding export restrictions on foodstuffs. In 2012, an even larger group of entities made additional recommendations to the G20 regarding sustainable agriculture and small-family farms. In addition to the recommendations provided in

108 Blandford, supra note 106, at 03:34:45.
110 Id. at 7.
111 Contributions were made by the FAO, the International Fund for Agricultural Development, the International Monetary Fund, the OECD, the U.N. Conference on Trade and Development, the World Food Programme, the World Bank, the WTO, the International Food Policy Research Institute, and the HLTF.
113 In addition to the contributors to the 2011 policy report (except for the International Monetary Fund), the following groups also contributed to the 2012 report: Bioversity International, the CGIAR Consortium, and the Inter-American Institute for Cooperation on Agriculture.
the 2011 report, this report also suggested that the G20 governments improve transparency and timely notifications of trade policy and domestic support measures, support the Aid for Trade initiative, and strengthen trade facilitation.\textsuperscript{114} Again, the 2011 and 2012 recommendations are consistent with the objectives of the DDA negotiations.\textsuperscript{115}

In addition to recommendations that echo many of the areas covered by the DDA negotiations, suggestions have been made with respect to other issues. For example, the E15 Initiative, a partnership between the International Centre for Trade and Sustainable Development and the World Economic Forum, is “a non-partisan, expert-led multi-stakeholder dialogue to explore options for strengthening the governance and functioning of the multilateral trade system.”\textsuperscript{116} The E15 Initiative established fifteen expert groups—each covering a different topic—to provide policy options for the international trade regime; one of the expert groups was tasked with addressing agriculture and food security. Through this program, the Agriculture and Food Security Group developed a set of policy options aimed at addressing challenges that emerged after the establishment of the DDA. In addition to encouraging the pursuits of the DDA, the group also provided additional suggestions, such as establishing provisions on support for biofuels, developing provisions directed at smallholders and their access to markets, and

\begin{footnotesize}
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\item\textsuperscript{114} Food and Agriculture Organization of the U.N., \textit{Sustainable Agriculture Productivity Growth and Bridging the Gap for Small-Family Farms}, 23 (June 12, 2012), \url{http://library.cgiar.org/bitstream/handle/10947/2702/Sustainable_Agricultural_Productivity_Growth_and_Bridging_the_Gap_for_Small-Family_Farms.pdf?sequence=1}. The report also recommended better adherence to science-based sanitary and phytosanitary measures developed by the FAO, the World Health Organization, and the World Organisation for Animal Health and support for sanitary and phytosanitary capacity building. \textit{Id.}
\item\textsuperscript{115} It is important to note that the groups involved in the HLTF and those that contributed to the 2011 and 2012 reports overlap to a large degree and thus one would expect their recommendations to be consistent.
\item\textsuperscript{116} Stefan Tangermann, \textit{A Post-Bali Food Security Agenda}, INT’L. CENTER FOR TRADE AND SUSTAINABLE DEV. 38 (Dec. 2013), \url{http://issuu.com/ictsd/docs/ag_post_bali_policy/1?e=4233984/7260487}.
\end{itemize}
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creating measures to address climate change and environmental concerns.  

As demonstrated by the recommendations of the E15 Initiative, HLTIF, and entities involved in the G20 reports, international trade and the global trade regime can play an important role in addressing food security concerns. Moving forward, the international community should continue to work toward the completion of the DDA negotiations, as well as examine other ways in which the international trade rules can be monitored to ensure they are a positive force in addressing global hunger.

CONCLUSION

The causes of, and contributing factors to, global food insecurity are numerous and complex. It is clear, however, that the WTO and international trading rules play an important role in the pursuit of global food security. In fact, when the MDGs were developed, it was envisioned that the WTO would be involved in their implementation. The international trade regime has sought to address these issues to the extent that they directly and indirectly relate to trade. The WTO rules and negotiation process are not designed to, nor were they intended to, address any and all trade-distortive practices in one fell swoop. Instead, the rules have been, and should continue to be, progressively developed. Moreover, while global hunger may be a consistent problem, the contributing factors may evolve. The international community must continue to examine how trade rules influence food security issues and how they can be modified to ensure that the evolving needs of the global community are met.

117 Id. at 18-26.
INTRODUCTION

In 1996, the Food and Agriculture Organization (FAO) of the United Nations held a World Food Summit that developed a Plan of Action for food security, so that “all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”¹ The Organization also made a Declaration that its members would “strive to ensure that food, agricultural trade and overall trade policies are conducive to fostering food security for all through a fair and market-oriented world trade system.”²

According to the World Health Organization (WHO), food security is defined as “physical and economic access to food that
meets people’s dietary needs as well as their food preferences.”  

Food security is built on three pillars:

- Availability: sufficient quantities of food available on a consistent basis.
- Access: sufficient resources to obtain appropriate foods for a nutritious diet.
- Use: appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation.

This essay will focus on the economics of food insecurity, with an emphasis on supply and demand. Food economics is particularly pertinent for developing countries, as the world’s poorest countries face the greatest food challenges. This essay will address whether rules imposed on countries’ domestic agricultural and trade policies through international agreements administered by the World Trade Organization (WTO) limit the ability of developing countries to achieve food security. In answering this question, this essay will examine the causes of food insecurity and policy approaches economists advocate for addressing the issues.

I. FOOD INSECURITY

Two major causes of food insecurity are insufficient availability and lack of access to food. Insufficient availability can be temporary and short-term. It can result, for example, from the destruction of crops and livestock or the infrastructure needed to distribute food. Droughts, floods, outbreaks of animal or plant diseases, and excessively cold or hot temperatures can cause losses of agricultural output. In some countries, hurricanes, typhoons,

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4 Id.
volcanic eruptions, earthquakes and their aftermath (like tsunamis) also lead to such losses. Natural disasters often severely damage or destroy essential food transport and storage infrastructure. Short-term disruptions in supply are also caused by wars and conflict, and, regrettably, conflicts are often a continuing problem for ensuring reliable food supplies.

Addressing short-term disruptions in poor countries’ food supplies typically involves emergency aid and assistance. Many countries, including the United States, have food aid programs. Numerous non-governmental organizations (NGOs) are also active in this area, such as Oxfam and the U.N. World Food Program (WFP). Oxfam is an association of seventeen non-governmental organizations that provides disaster relief in more than ninety countries. The organization has been involved in providing clean water, food, and sanitation in response to most of the world’s major humanitarian crises over the last seventy years.\textsuperscript{6} The WFP, which was created as part of the United Nations system in 1961, is the world’s largest humanitarian organization. The WFP acts as a channel for food assistance using funding provided by governments, corporations, and private individuals. Each year, the WFP provides food assistance to more than eighty million people in seventy-five countries.\textsuperscript{7}

Over the long term, insufficient food availability can be caused by a persistent failure to produce enough food or to make food available to those who need it. Availability problems can be caused by resource constraints that limit agricultural productivity and market failures, such as the lack of an institutional framework to underpin increases in productivity in agriculture, inadequate access for farmers to inputs needed to increase productivity, or the lack of infrastructure to store, process, and move agricultural products to where they are needed.

\textsuperscript{7} \textit{Fighting Hunger Worldwide}, WORLD FOOD PROGRAMME, \url{http://www.wfp.org/about} (last visited Sept. 19, 2014).
The inability of consumers to obtain access to food can be temporary, as discussed above. For countries with sufficient financial resources, imports can address these short-term reductions in domestic supplies. For instance, a recent assessment by the U.S. Department of Agriculture concluded that “the capacity to pay for imports is significant in regions like Latin America and the Caribbean and North Africa that import a large share of their food supplies.” Access to international markets can also help reduce price spikes created by short-term reductions in domestic supply. Sustained import dependence, however, means that rises in international food prices affect domestic markets. When consumers spend a large portion of their disposable income on food, price jumps can lead to hardship and social unrest. For example, the most recent information available from the United Nations (2007-09) shows that dependency on imports of cereals in Africa is roughly double the average for developing countries as a whole (30.1 percent of total supplies, compared to 15.5 percent). Since 2000, cereal prices in Africa have been more than twice as volatile as the world average. The poorest people in Africa (lowest income quintile) typically spend between fifty and eighty percent of their disposable income on food, compared to less than twenty percent in the United States. Sharp increases in food prices in 2007-2008 led to riots in a number of African countries, including Burkina Faso, Cameroon, Senegal, Somalia and Yemen. Over the longer term, persistent inability to gain access to food is generally caused by a lack of resources needed to produce food for consumption or an inability to generate the income necessary to purchase food through the marketplace.

11 Id.
Both forms of food insecurity—temporary and chronic—can be addressed through appropriate policies. As noted, short-term food security issues can be addressed through short-term measures to increase food availability. International aid, financial resources for imports, and assistance in rebuilding damaged infrastructure can all help overcome short-term food insecurity. In contrast, from an economic perspective, the two most effective ways to address the long-term resource inadequacy issue should be domestic. These include:

- Improving access to resources needed by individuals to produce their own food (e.g., land and water). This usually requires structural changes, such as land ownership reform and the creation of a legal framework to guarantee property rights.

- Improving the productivity of existing resources through the adoption of new technology, and improved land and resource management for food production.

From an economic perspective, long-term access to food can also be addressed effectively in two ways:

- Improving the income earning capacity of food insecure individuals.
- Providing income transfers to the poor to enable them to gain improved access to food.

Governments use other approaches in attempting to provide food security. The most popular approach is to provide subsidies to farmers to induce them to produce more food. Governments also use measures that protect farmers from international competition so that more food will be produced domestically rather than imported. This is where trade law plays a role.

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12 This conclusion is drawn from my interpretation based on economic theory and the overall body of literature in this area. See generally C. Peter Timmer, Walter P. Falcon & Scott R. Pearson, Food Policy Analysis (1983).
II. THE ROLE OF WTO DISCIPLINES

The Agreement on Agriculture (AoA) that resulted from the Uruguay Round of negotiations under the General Agreement on Tariffs and Trade (GATT), completed in 1994, sought to impose disciplines on measures used by governments to protect agriculture, i.e., the provision of price and income support to farmers and the use of various types of subsidies, particularly trade-distorting subsidies.\textsuperscript{13} The Uruguay Round Agreement (URA) and the creation of the WTO represented the first time that agricultural policies had been seriously addressed multilaterally, as the GATT was largely ineffective in this area.\textsuperscript{14} The AoA was negotiated at a time when international prices for food were low and a major aim was to limit the price-depressing effect of support measures used by wealthy countries.\textsuperscript{15} These measures reduced the earning potential of farmers who did not receive subsidies (in both exporting and importing countries)—but, paradoxically, consumers in import-dependent low-income countries benefited from the lower prices.\textsuperscript{16}

Agricultural support was classified into three categories: “amber box,” “green box,” and “blue box.”\textsuperscript{17} The two most important categories were trade distorting amber box subsidies and green box subsidies considered to be minimally trade distorting.\textsuperscript{18} Limits were placed on amber box subsidies and reductions were

\textsuperscript{13} See generally DAVID ORDEN, DAVID BLANDFORD & TIM JOSLING, WTO DISCIPLINES ON AGRICULTURAL SUPPORT: SEEKING A FAIR BASIS FOR TRADE (2011) (providing an in-depth analysis of international agreements on agricultural subsidies).
\textsuperscript{15} See id.
\textsuperscript{16} ORG. FOR ECON. COOPERATION AND DEV., NATIONAL POLICIES AND AGRICULTURAL TRADE (1987).
\textsuperscript{17} Agriculture Negotiations: Background Fact Sheet, WORLD TRADE ORG. (Oct. 1, 2002), http://www.wto.org/english/tratop_e/agric_e/agboxes_e.pdf.
\textsuperscript{18} Id.
agreed to in the total amount of subsidy that could be provided.\textsuperscript{19} \textit{De minimis} exemptions were granted for amounts of subsidies that were viewed to be sufficiently small.\textsuperscript{20} Green box subsidies were exempt from reductions.\textsuperscript{21}

Developing countries are treated more generously in the types of subsidies that can be excluded from WTO disciplines. Specifically, investment subsidies made available to agriculture as part of development programs, and subsidies for agricultural inputs for low-income or resource-poor producers (measures that could be used to increase productivity and food output by smaller and poorer farmers), are exempt from reductions.\textsuperscript{22} The \textit{de minimis} level for the exclusion of subsidies from WTO calculations of support is set at ten percent for developing countries, in contrast to five percent for other countries.\textsuperscript{23}

Green box subsidies are not subject to limits on the amount of support provided. Several types of expenditures that are directly relevant to food security policies are exempt from limits under the AoA. These are summarized briefly below:

- Expenditures on general government services, including research, training and extension, pest control, inspection services, and infrastructure (capital expenditures). Such expenditures can be used to increase productivity and the

\begin{itemize}
  \item\textsuperscript{19} \textit{WTO Agriculture Negotiations: The Issues, and Where We Are Now}, WORLD TRADE ORG. (Dec. 1, 2004), http://www.wto.org/english/tratop_e/agric_e/negs_bkgrnd13_boxes_e.htm.
  \item\textsuperscript{20} Uruguay Round Agreement on Agriculture, Jan. 1, 1995, 1867 U.N.T.S. 410 [hereinafter Uruguay Round Agreement]. Subsidies that involved limitations on production were included in the blue box; these subsidies were not limited in the AoA.
  \item\textsuperscript{21} Id.
  \item\textsuperscript{23} Uruguay Round Agreement, supra note 20.
\end{itemize}
resilience of the food system to external shocks, such as weather and disease.\textsuperscript{24}

• The accumulation and holding of private or public stocks, which are part of a national food security program. There are conditions, \textit{e.g.}, there must be predetermined targets for stock accumulation relating solely to food security objectives, there must be financial transparency, and purchases and sales must be made at current market prices. Stockholding under this provision could be used to provide a buffer against fluctuations in supply due to weather, disease, or other factors.\textsuperscript{25}

• Expenditures on domestic food aid programs with clearly defined nutritional objectives and eligibility criteria for recipients. The direct distribution of food to eligible individuals and sales at subsidized prices are both permitted, provided the government acquires supplies of food at market prices. Financial transparency is also required.\textsuperscript{26}

• Government subsidies for income insurance and income safety net programs. These are allowed, subject to defined criteria relating to eligibility for recipients and limits on the amount of compensation provided. Compensation must not be linked to the type or volume of production so that the subsidies do not provide an incentive to increase production, \textit{i.e.}, act as a production subsidy.\textsuperscript{27}

• Disaster relief payments to farmers. Such payments are permissible, provided they are linked to the effects of a recognizable natural disaster (\textit{e.g.}, drought or flood). There

\textsuperscript{24} Id.  
\textsuperscript{25} Id.  
\textsuperscript{26} Id.  
\textsuperscript{27} Id.
are limits, however, on the amount of compensation that can be provided for losses of crops or livestock.\textsuperscript{28}

The menu of policy options for pursuing food security policies implied by this list of exemptions is broad. Measures exist that both address short and long term food availability issues and increase access by poor consumers. Policies have to be targeted and proportionate, and they have to be minimally distorting in terms of production and international trade. The framers of the AoA recognized that governments would often want to implement food security policies, and provided a means to do so in a way that would be minimally trade distorting.\textsuperscript{29}

III. ARE WTO DISCIPLINES INCONSISTENT WITH FOOD SECURITY?

Despite the fact that the AoA allows the use of a range of policy measures directed toward ensuring food security, some developing countries, \textit{e}g., India, argue that the requirements of these policy measures under the AoA are unduly restrictive.\textsuperscript{30} These countries want to have the ability to use policies that would not satisfy the criteria specified in the AoA. It is important to stress that the most economically efficient methods for addressing food insecurity are not currently affected by the AoA, nor would they be affected by a proposed new agreement on agriculture under the current Doha Round of trade negotiations through the WTO. What are currently affected, and would be affected by a new agreement, however, are some policy measures used in the name of food security.

The first such category of measures is general subsidies for agricultural inputs, \textit{i.e.,} subsidies that are provided to all farmers,

\textsuperscript{28} \textit{Id.}

\textsuperscript{29} This observation is based on the author’s conversations with some of those involved in the negotiations.

rather than being targeted to low income or resource-poor farmers. The targeted subsidies are permissible under the AoA. General input subsidies on items such as fertilizer, agro-chemicals, energy, and water are undesirable for two main reasons. First, they tend to promote the over-use of inputs. Lowering the cost of fertilizer or energy, for example, induces farmers to use more of these inputs than needed. The excessive use of fertilizer, agro-chemicals, water, and energy often has undesirable environmental consequences. Second, input subsidies are most advantageous to farmers that use large quantities of inputs, such as those who operate larger farms. From a distributional perspective, general input subsidies are less desirable than subsidies targeted solely to small or disadvantaged farmers.

The second category of measures is price supports. Typically, price supports are implemented by setting a minimum price for agricultural products in the domestic market, which is maintained through government purchases when supplies exceed demand at that price. The purchases are stored and either disposed of domestically or, if domestic disposal is not possible, exported using various forms of export subsidies. Some countries argue for this approach on the grounds that some of the products acquired can be distributed to domestic consumers at subsidized prices. Unlike a system of concessional distribution based on the acquisition of products at market prices, however, purchases through price support programs almost inevitably end up with the government acquiring larger stocks than it needs, or can handle, through food assistance programs. Often, overproduction results in the disposal of excess purchases.

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32 Id.
33 Id.
34 Id. (stating that the most important example is India).
Another drawback of price support programs is that they keep prices higher for consumers who do not have access to food distributions from government stocks and obtain their food in the marketplace. It seems strange to have a policy that is billed as ensuring food security that actually imposes higher costs for food on consumers.

A third category of measures, which are not part of the domestic support disciplines, relates to market access provisions. This category covers various forms of import protection, such as import tariffs and other related policies (often essential when a price support program is in operation so that domestic support prices are not undermined by cheaper imports), which also impose a tax on domestic consumers of food. Like price supports, a policy making food more expensive for consumers is a rather strange approach to ensuring food security.

The existing WTO disciplines on agriculture, and proposals to strengthen these (e.g., to reduce the permitted amount of trade-distorting support), are far from perfect. An important conclusion, however, is that WTO rules affecting domestic policies designed to ensure food security are on the right track. WTO rules discourage the use of inefficient and costly policies that often have undesirable side effects on consumers and environmental quality, but at the same time allow countries to pursue food security policies that do not have such effects.

Food stockholding was a major focus of a ministerial meeting of the WTO in Bali, Indonesia in December 2013. Countries with stockholding policies that do not conform to current WTO green

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36 The AoA imposes restrictions on the use of explicit export subsidies, but there are loopholes that allow various forms of disguised subsidies to dispose of surplus products internationally. These loopholes include subsidized financing and insurance for exports, as well as food aid, which are not covered by the AoA.

37 See NATIONAL POLICIES AND AGRICULTURAL TRADE, supra note 16.

38 See World Trade Organization, Ministerial Declaration of 6 December 2013, WT/MIN(13)/W/10, 1 (2013)
box criteria, and whose expenditures on stockholding would be counted against their allowable amber box support, pressed for a permanent exemption for their policies.\textsuperscript{39} A temporary solution was agreed to, under which WTO members will not challenge countries whose domestic support exceeds current bindings as a result of the way their stockholding policies operate.\textsuperscript{40} If the WTO’s principal objective to reduce trade-distorting support for agriculture is to be maintained, it will be important that any modification to existing rules on stockholding for food security purposes does not provide for open-ended price support for farmers, \textit{i.e.}, unlimited purchases at a government-determined price.

\textbf{CONCLUSION}

We have seen from past experience in Europe and the United States that this type of policy is economically inefficient, and a potential source of tension among trading partners because of resulting distortions in international markets. A subsidy war between the European Union and the United States during the 1970s and 1980s was one the major reasons why countries thought it was necessary to bring agricultural policies under international disciplines in the Uruguay Round.\textsuperscript{41} It would be unfortunate for the world’s trading system if a loosening of these disciplines resulted in renewed conflicts over agricultural policies in the future.

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{39} Id.
\item \textsuperscript{40} Id.
\item \textsuperscript{41} See JOSLING, TANGERMANN & WARLEY, supra note 14.
\end{itemize}
\end{footnotesize}
“The only reason why we are hungry is because of how we have been investing in Agriculture.” – Ann Itto, South Sudan’s Minister of Agriculture

“When food becomes scarce, the investor needs a weak state that does not force him to abide by any rules.” – Phillepe Heilberg of Jarch Capital

Recent global food price volatility combined with the growing use of agricultural land to produce biofuels has sparked a global scramble for land. Precise numbers are difficult to verify, but the scale of new international land investment in recent years is, by all
accounts, enormous. Compared to an average annual expansion of international investment in global agricultural land of less than four million hectares before 2008, the World Bank estimates that approximately fifty-six million hectares worth of new large-scale farmland deals were announced in 2009 alone.

Developing countries, particularly those in Sub-Saharan Africa, are the main targets for investors. These countries are enticing because land in Sub-Saharan Africa is relatively cheap and available, the climate is favorable to crop production, and labor is inexpensive. According to the International Land Matrix project, since 2001, governments and international investors acquired land

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5 Klaus Deininger et al., World Bank, Rising Global Interest in Farmland: Can It Yield Sustainable and Equitable Benefits xiv (2011).

6 Id. at xiv (noting that more than seventy percent of the demand has been in Africa).


8 The Land Matrix is an online public database that permits the public to contribute data on land deals. The Land Matrix facilitates the collection and representation of data; encourages citizens, researchers, governments, and companies to provide data and improve the quality of and access to data; and provides a regular and accessible analysis of trends. It is supported by nonprofit organizations as well as the Government of the Netherlands and the European Commission. What is the Land Matrix, http://landmatrix.org/en/about/ (last visited Feb. 4, 2013).
area in Africa equivalent to the northern U.S. plains states of North Dakota, South Dakota, and Nebraska combined.\(^9\)

Derided as “land-grabbing” by those opposed to the practice, the phenomenon of large-scale acquisition of farmland by governments and private investors sparked a global debate among international organizations, investors, researchers, and global civil society.\(^10\) Some analysts and institutions, like the World Bank, see the growth of this trend as a potential opportunity for rural development.\(^11\) They argue countries with large endowments of land, but gaps in productivity, can harness the technologies and capital associated with responsible international investment and expand cultivated areas and agricultural productivity.\(^12\) Others, however, see rapid acquisitions of crucial food-producing lands by foreign entities as a threat to rural economies and livelihoods.\(^13\) These analysts argue that the current trend of international land investment works against the goals of increasing food security and ending global hunger.

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\(^9\) ANSEEUW, ET AL., supra note 4; see also How Much of Your State is Wet?, U.S. GEOLOGICAL SURVEY, http://ga.water.usgs.gov/edu/wetstates.html (last visited Oct. 19, 2012) (reflecting the figures on U.S. area. The land area of North Dakota (68,976 m\(^2\)), South Dakota (75,885 m\(^2\)), and Nebraska (76,872 m\(^2\)) combined is 221,773 m\(^2\). One square mile is 258 hectares. Thus, 221,773 m\(^2\) = 57.4 million hectares.).


\(^11\) DEININGER ET AL., supra note 5, at 129-42.

\(^12\) Id. at 5.

because investors prioritize production of food for export over supporting domestic food supplies.\textsuperscript{14} Still, others are generally supportive of increased investment in farmland, but would prefer these investments stop until appropriate laws, regulations, and industry standards can be implemented to protect the rights of farmers.\textsuperscript{15}

As this article will detail, investors in African land often encounter many of the same risks as investors faced during the twentieth century scramble for oil and gas in Africa endured. The story of oil and gas discovery in Africa has been, for the most part, a tragic one. For years, the governments of oil producing countries in Africa proved unwilling or unable to protect their citizens from the negative consequences of foreign investment.\textsuperscript{16} At the same time, many investors involved in the oil industry simply ignored the damage they caused to communities and the environment.\textsuperscript{17} As a consequence, African oil producers such as Nigeria, Angola, Congo-Brazzaville, Cameroon, and Gabon have all been largely unable to convert their oil wealth into broad-based economic growth.\textsuperscript{18} Combining weak state institutions with economies completely dependent on the export of oil or minerals has shown to reduce economic growth, feed corruption, and increase the risk of civil war.\textsuperscript{19} Investment practices by multinational corporations acting without strong regulations in West Africa have led to devastating social and

\textsuperscript{14} Id. at 18.
\textsuperscript{16} See infra Part II.
\textsuperscript{17} Simon Warikiyei Amaduobogha, Environmental Regulation of Foreign Direct Investment (FDI) in the Oil and Gas Sector, in LAW AND PETROLEUM INDUSTRY IN NIGERIA 115, 131 (Festus Emiri & Gowon Deinduomo eds., 2009).
environmental consequences. In Nigeria, for example, oil production since the late 1950s has damaged water and soil resources so much that fishing, forestry, and agriculture are no longer possible in large areas of the oil-producing region.

Some governments and investors in the non-renewable extractive industries have learned they could not simply ignore the damage their business practices caused and took remedial action. According to economist Paul Collier, “Nigeria’s dysfunctional management of its first oil boom of 1973–83 and its brilliant management of the second boom of 2003–08 cautions against the gloomy cynicism that until recently bedeviled investor thinking about Africa.” Unfortunately, in many cases, the remedial steps taken were too late to save the local environment, guard against corruption, or protect investors’ reputations.


22 Nonrenewable extractive industries are those industries that are related to the extraction of mineral and hydrocarbon products such as gold, diamonds, oil, gas, etc. from the land and cannot be replaced. See OIL, GAS, AND MINING UNIT, Extractive Industries Review Reports, WORLD BANK, http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTOGMC/0,co ntentMDK:20306686~menuPK:592071~pagePK:148956~piPK:216618~theSitePK:336930,00.html (last visited Jan. 6, 2013).


25 See Spence, supra note 23, at 72 (“Shell eventually began to recognize and address its reputational problem by undertaking social investment and making concerted efforts to cultivate positive relationships with all of its important stakeholders in Nigeria. However, by that time, much of the reputational damage had been done. Despite pouring resources into social projects and stakeholder relations in Nigeria in the 1990s and early 2000s, protests against Shell became stronger and more organized.”).
This article is intended to contribute to the global discussion on international investment in African land by assessing lessons from the experience of foreign investment in the Nigerian oil sector in the later part of the twentieth century and applying these lessons to the current situation of large-scale land investment in South Sudan. One can derive many lessons about law, social policy, local governance, and the moral responsibility of multi-national corporations from studying the Nigerian oil experience. It is important to note, however, the comparison between agriculture in South Sudan and the extractive sector in Nigeria can only go so far. Developing policies and legal relationships based on analogy may lead policymakers and investors to ignore the peculiarities of each context.

This article will focus on the regulatory framework and legal relationships between investors and governments, and furthermore, will make suggestions on what type of frameworks and legal relationship will be most beneficial for all parties involved in the South Sudanese agricultural sector. Part I will explore the issue of large scale land acquisitions by foreign investors in general and will then focus on the phenomenon in South Sudan. Part I will also examine who the investors are, the motivations for investment, the possible threats to the people of South Sudan, and the risks borne by investors. Part II will explain the economic and social impact of oil investment in Nigeria during the second half of the twentieth century. Part II will then examine the reforms pursued by the Federal Government of Nigeria (FGN) and assess how litigation and government action influenced the conduct of investors. Finally, Part III will provide recommendations for investors and the Government of South Sudan (GoSS) for establishing governance and legal frameworks that will lead to benefits for both investors and the African communities.

The story of land investment in Africa is just beginning to be written. This article argues that the choices made by both investors and governments will have profound implications for the future of livelihoods and the global agricultural sector. Unless investors and governments learn from the mistakes of previous investment in
Africa’s abundant natural resources, there is little hope that large-scale land investment will be mutually beneficial.

I. LAND INVESTMENT: RISKS AND REWARDS

A. The Scope and Context of International Land Investment

Global demand for energy, food, and water is expected to accelerate over the next two decades. Three billion new middle-class consumers are expected to emerge from poverty and move into urban areas. This rise in demand already strains the agricultural sector due to its indispensable role in supplying food and energy needs. The rapid increases in demand for agricultural products have caused price shocks and volatility as the market attempts to bring supply and demand into proper alignment. Largely due to the rise

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in demand for agricultural products in China and India, and biofuel 
policies in Europe and North America, the International Monetary 
Fund’s food price index reflected price increases of 130% from 
January 2002 to June 2008, and a staggering 56% between January 
2007 and June 2008.

While the numbers are alarming, rapid increases in demand 
for energy and food is not new. Similar factors were observed 
throughout the twentieth century, as the world’s population tripled. 
The difference is that during the twentieth century, however, prices 
for primary commodities remained relatively stable. Economists 
from the McKinsey Global Institute attribute the lack of price 
volatility in the twentieth century to technological improvements 
related to the Green Revolution.

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29 See DEREK HADLEY & SHENGGEN FAN, INT’L FOOD POLICY 
RESEARCH INST., REFLECTIONS ON THE GLOBAL FOOD CRISIS: HOW DID IT 
HAPPEN? HOW HAS IT HURT? AND HOW CAN WE PREVENT THE NEXT ONE? 165 
a detailed account of the factors that led to the global food crisis of 2008).

30 For more information on the IMF Commodity Price Index, see IMF 
PRIMARY COMMODITY PRICES: FREQUENTLY ASKED QUESTIONS, INT’L. MONETARY FUND, 
http://www.imf.org/external/np/res/commodity/faq/index.htm#q1 (last updated 

31 Donald Mitchell, A Note on Rising Food Prices (July 2008), 
IW3P/1B/2008/07/28/00020439_20080728103002/Rendered/PDF/WP4682.pdf.

32 Id.

33 Dobbs, supra note 26, at 1.

34 The Green Revolution refers to the massive investments in modern 
scientific research for agriculture in the mid-twentieth century, which were 
led by a handful of American foundations, most prominently the Rockefeller Foundation. 
This effort led to dramatic increases in agricultural yield, most notably in India. 
For more information on the Green Revolution, see Amanda Briney, GREEN 
REVOLUTION: HISTORY AND OVERVIEW OF THE GREEN REVOLUTION, ABOUT (Oct. 12, 2014, 2:34 PM), 
Had supply remained constant [in the twentieth century], commodity prices would have soared. Dramatic improvements in exploration, extraction, and cultivation techniques kept supply ahead of ever-increasing global needs, cutting the real price of an equally weighted index of key commodities by almost half. This ability to access progressively cheaper resources underpinned a 20-fold expansion of the world economy.  

Many investors see land as a unique investment opportunity in the current environment. Because demand for food is inelastic, some investors see land investments as secure assets at a time when the global financial crisis has made other investments less profitable. With modest investment in technology and infrastructure, these investors conclude that productivity in underutilized lands in the developing world could potentially increase and, in turn, increase food availability, lower prices, and lead to stable profits over the long term.

Private investors are not the only entities entering the market for African land. Increasing food prices over the past decade have led governments reliant on food imports to question the capacity of

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35 Id.
37 See Charles Roxburgh et al., McKinsey Global Inst., LIONS ON THE MOVE: THE PROGRESS AND POTENTIAL OF AFRICAN ECONOMIES 8 (2010), http://www.mckinsey.com/insights/mgi/research/productivity_competitiveness_and_growth/lions_on_the_move (estimating that by bringing more land into production, adding technology to increase yields, and shifts to a mix of both low-value crops and fruits and vegetables, Africa could increase its agricultural output from $280 billion in 2010 to $880 billion in 2030).
global markets to provide food at a predictable price.\textsuperscript{38} Rich countries that have land and water constraints, such as those in the Persian Gulf, have leased or purchased large tracks of land in Africa in pursuit of domestic food security.\textsuperscript{39} Likewise, countries with large populations and food security concerns, such as China, South Korea, and India, are looking to capitalize on investment opportunities in food production overseas.\textsuperscript{40}

Investors see Africa as the best place for land investment. They see the land as plentiful and possessing massive potential for economic growth.\textsuperscript{41} In fact, since 2001 more than half of international land investment occurred in Sub-Saharan Africa.\textsuperscript{42} The interest in Africa is unsurprising; Africa is home to more than one-quarter of the world’s arable land and sixty percent of the world’s remaining uncultivated land, but generates only ten percent of global agricultural output. Further, governments from across the continent are making strenuous efforts to attract agricultural investments by encouraging international access to historically national land resources.\textsuperscript{43}

\textsuperscript{38} Lorenzo Cotula & Sonjia Vermeulen, \textit{Deal or No Deal: The Outlook for Agricultural Land Investment in Africa}, 85 INT’L AFFAIRS 6, 1233, 1235 (2009).
\textsuperscript{39} JOACHIM VON BRAUN & RUTH MEINZEN-DICK, INT’L FOOD POLICY RESEARCH INST., \textquotedblleft LAND GRABBING\textquotedblright{} BY FOREIGN INVESTORS IN DEVELOPING COUNTRIES: RISKS AND OPPORTUNITIES 1 (Apr. 2009), http://www.ifpri.org/sites/default/files/publications/bp013all.pdf.
\textsuperscript{41} Kartik Jayaram et al., \textit{Africa’s Path to Growth, Sector by Sector}, MCKINSEY QUARTERLY (June 2010), http://www.mckinsey.com/insights/economic_studies/africas_path_to_growth_sector_by_sector.
\textsuperscript{42} ANSEEUW, supra note 4.
The Republic of South Sudan, the world’s newest nation, is among the most sought after locations for large-scale land acquisitions. The semi-autonomous region of southern Sudan emerged in 2005 after decades of war between the Government of Sudan and the mostly southern-based Sudan’s People’s Liberation Army. The peace agreement between the two parties ended the war and created an interim “Government of southern Sudan.” Six years thereafter, 98.83% of the people of southern Sudan voted in favor of a Referendum on Southern Independence. As a result, the Republic of South Sudan was formally established on July 9, 2011. Private investors flocked to southern Sudan after the war ended mainly due to its large size, low population density, and impressive natural resource wealth. International investors were welcomed in southern Sudan with eager partners within the GoSS, local public officials, and community elites.

South Sudan is a unique case, because it is a new country struggling to recover from decades of war and internal violence.

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48 Gettleman, supra note 44.


50 Id.

51 Id.
between ethnic groups. The war seriously disrupted governance and undermined social hierarchies and traditional authorities. Conflict continues to plague South Sudan. In December 2013, political rivalries erupted into a major conflict between ethnic groups in South Sudan. A ceasefire was signed in May 2014, but violence remains and reports of serious human rights abuses continue to be reported by aid organizations and human rights groups.

The GoSS is faced with resolving disputes between its own people through strengthening and rebuilding social institutions, while at the same time creating state institutions and a legal regime basically from scratch. Because South Sudan is going through a fundamental shift in its governance systems and law, investors in South Sudan operate under the ambiguity of the prevailing law and weak

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52 See Jok Madut Jok & Sharon Elaine Hutchinson, Sudan’s Prolonged Second Civil War and the Militarization of Nuer and Dinka Ethnic Identities, 42 AFR. STUD. REV. 2 (1999).


57 See generally Florence Martin-Kessler & Anne Poiret, How to Build a Country From Scratch, N.Y. TIMES, Feb. 4, 2013, http://www.nytimes.com/2013/02/05/opinion/how-to-build-a-country-from-scratch.html (opinion article arguing that the nascent nation had just a few short paved roads for a territory roughly the size of France; no infrastructure; no public services to speak of; no justice system, let alone law or order; the area was lush with weapons, rife with ethnic violence and in the midst of a tense divorce with its northern half).
government institutions. Operating in such a context comes with many potential risks and rewards to both investors and the people of South Sudan.

B. The Risks and Rewards For Investors of Land Investment in Southern Sudan

All investments involve risk in the sense that any number of events may unfold that lead to economic loss. This article will focus on political and reputational risks. Political risks are “threats to the profitability of a project that derive from some sort of governmental action or inaction, rather than changes in economic conditions in the marketplace.” Categories of political risk associated with land investment may include: (1) civil unrest; (2) direct or indirect expropriation of property; and (3) corruption. A forth type of risk is the risk that a company will lose potential business because its reputation or character has been called into question. Investors in some countries may be faced with risks that fall under one or two of these categories. In South Sudan, however, investors must grapple with serious risks that fall under each of the four categories.

58 DENG & MITTAL, supra note 49, at 42; see also U.S. AGENCY FOR INT’L DEVELOPMENT, LAND TENURE ISSUES IN SOUTHERN SUDAN: KEY FINDINGS AND RECOMMENDATIONS FOR SOUTHERN SUDAN LAND POLICY (Dec. 2010), http://usaidlandtenure.net/sites/default/files/USAID_Land_Tenure_Southern_Sudan_Findings_and_Recommendations.pdf (provides a detailed account of tradition land ownership system and how the transitional period attempted to adjust the land ownership system).


61 Id. at 6 (Authors cite seven forms of political risks. Not all the risks cited apply to land investment (such as currency risks and trade restrictions) and some risks overlap in the context of land investment. Thus, for the purpose of this article I have reduced the number of risks to three.).

1. Civil Unrest. – The threat of civil unrest is the most serious risk facing foreign investors in South Sudan. Although no longer at war with its northern neighbor, violence and bloody conflict continue to plague South Sudan. Political rivalries, social institutions weakened by decades of war, pressures on land, and the prevalence of small arms among the civilian population have enabled and fueled violent conflicts. Conflicts between ethnic groups and among pastoralists that in the past would be solved by traditional institutions instead continue unabated. If the GoSS continues to be unable to insulate business interests from the direct and indirect impact of violence and civil strife, investors may find their property damaged or they may not be able to carry on regular operations due to threats to the workforce.


64 See generally Adam O’Brien, Shot in the Dark: The 2008 South Sudan Civilian Disarmament Campaign, SMALL ARMS SURVEY 10 (2009), http://www.smallarmssurveysudan.org/fileadmin/docs/working-papers/HSBA-WP-16-South-Sudan-Civilian-Disarmament-Campaign.pdf (author argues that “the market for small arms thrives with strong demand and supply, undermining stability and threatening the fragile peace.”).


67 RUBINS & KINSELLA, supra note 60, at 19. Under international law, host governments are not required to compensate for loss to the investor caused by non-governmental actors, though this sort of risk is usually insurable.
Outside of violence, political or social unrest spurred by large-scale land investment is a serious risk in South Sudan. The right of communities to exercise ownership and control over their land was at the heart of the Southerners’ demands during the civil war. Because communities endured hardship throughout the war, many believe they have earned the right to be involved with decisions relating to the use of land held by the community. Any attempt to adjust or undermine the rights of landholders is likely to face stiff opposition from groups at the local level.

2. Expropriation. – Under international law, host nations have the sovereign right to expropriate assets and to regulate activities within their jurisdiction. There are, however, some conditions to the general rule: a taking is illegal unless it is (1) non-discriminatory; (2) carried out for a public purpose; and (3) accompanied by full compensation.

In a classic expropriation situation, the host government annuls the investor’s title to an asset acting under local law. Expropriation can also occur in indirect ways when no formal transfer of ownership or control from an investor to the government

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68 Deng & Mittal, supra note 49, at 15.
69 Id.
70 Id.
72 The United Nations General Assembly expressed the principle of permanent sovereignty over natural resources in General Assembly Resolution 1803 in 1962. The Resolution declares that both people and nations have a right to exercise sovereignty over natural resources in the area under which they have sovereign control. See G.A. Res. 1803 (XVI), U.N. Doc. A/5217 (Dec. 14, 1962); see also Emeka Duruigbo, Permanent Sovereignty and People’s Ownership of Natural Resources in International Law, 38 Geo. Wash. Int’l L. Rev. 33, 37 (2006) (arguing the right to permanent sovereignty over natural resources is vested in peoples, not states, though states retain a pivotal role insomuch as government exercises the right to permanent sovereignty).
73 G.A. Res. 1803, supra note 72, ¶4; see also Rubins & Kinsella, supra note 60, at 8.
74 The term “nationalization” is often used interchangeably with an expropriation of this sort if the taking occurs across an entire industry.
occurs. International arbitral tribunals over the past twenty years have concluded that government measures that eliminate substantially all of an investment’s value may constitute “regulatory expropriation” or “indirect expropriation.” These tribunals held that withholding operational permits promised to an investor after the considerable funds have been expended, enacting legislation requiring corporations to be structured in certain ways, or establishing the investment land as a protected area could constitute regulatory takings.

The Investment Promotion Act of South Sudan of 2011 provides a guarantee against expropriation that should, in theory, reduce the risk of direct expropriation. It states that “there shall be no expropriation of any enterprise . . . unless the expropriation is in the national interest for a public purpose, . . . is made on a non-discriminatory basis, [and] in accordance with due process of law.” According to this Act, compensation will be given without delay and the amount given will be determined by means agreed to by both the Government and the person whose property has been expropriated.

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75 Tippetts, Abbott, McCarthy, Stratrer v. TAMS-AFF Consulting Eng’rs of Iran, 6 Iran-U.S. Cl. Trib. 219 (1984).
76 See, e.g., Metalclad Corp. v. United Mexican States, ICSID Case No. ARB/97/1, Arbitration Award, ¶ 103 (Aug. 30, 2000) 40 ILM 36 (2001) (“Expropriation under NAFTA includes not only open, deliberate and acknowledged transfer of title in favor of the host State, but also covert or incidental interference with the use of property which has the effect of depriving the owner, in whole or in significant part, of the use of reasonably-to-be-expected economic benefit of property even if not necessarily to the obvious benefit of the host state.”).
79 Id. at 34 (2).
80 Id. at 34 (3-4).
While the GoSS has addressed direct expropriations in the Investment Promotion Act, the manner in which community land is held in South Sudan, combined with the practice of other governments in Africa raises some concerns for investors. The Land Act of 2009 states that all land is owned by the people of southern Sudan, and the Government is responsible for regulating its use. When no tenure can be established, the land is designated as public land and may be granted to investors by the Government. Public lands only represent a small fraction of South Sudanese land, and management of most rural lands is given to customary institutions. This situation differs from most African countries.

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81 The Government of Madagascar, for example, entered into a ninety-nine-year lease for 3.2 million acres with a South Korean firm in 2009. The public revolted against the agreement and helped lead to the fall of the Government of Madagascar. The new leader almost immediately cancelled the deal with the South Korean firm when he came into office. Madagascan Leader Axes Land Deal, BBC NEWS, Mar. 19, 2009, http://news.bbc.co.uk/2/hi/africa/7952628.stm; see also Anastasi Telesetsky, A New Investment Deal in Asia and Africa: Land Leases to Foreign Investors, in EVOLUTION IN INTERNATIONAL INVESTMENT TREATY LAW AND ARBITRATION 1 (Chester Brown & Kate Miles eds., 2012) (detailing the expropriation experiences of other governments).

82 By discussing the Land Act I do not intend to provide an analysis of land tenure issues in South Sudan. Rather, the Land Act forms the backbone of the regulatory regime in land investment in South Sudan in the same way that the Petroleum Act, discussed infra note 208, addresses oil production in Nigeria.

83 The Land Act of 2009 (S. Sudan) § 7 (copy on file with author). Section nine of the Act classifies “land” as public, community, or private land. Id. § 9. Public land is land owned collectively by the people of South Sudan and held in trust by the GoSS. Id. § 10. Public land includes land used by government offices, roads, rivers, and lakes for which no customary ownership is established, and land acquired for public use or investment. Id. § 73(5). Community land is land held, managed, or used by communities based on ethnicity, residence, or interest. Community land can include land registered in the name of a community, land transferred to a specific community, and land held, managed, or used by a community. Id. § 11. Private land includes registered freehold land, leasehold land, and any other land declared by law as private land. Id. § 12.


85 IS ACADEMY ON LAND GOVERNANCE, SOUTH SUDAN FOOD SECURITY AND LAND GOVERNANCE FACTSHEET 4 (Apr. 2011), http://www.landgovernance.org/system/files/Sudan%202011Factsheet%20LANDac%20april%202011.pdf (LANDac is a partnership between several organizations
where the land is owned by the state.\textsuperscript{86} Establishing a land system whereby communities are given ownership rights protects the rights of communities, but makes allocating land for investment more cumbersome.\textsuperscript{87}

According to the Land Act, it is communities, not national or state governments, that have the authority to allocate community land rights for investment activity.\textsuperscript{88} The objective of this provision was outlined in the 2011 Draft Land Policy, which states:

In many parts of the region, land holdings, large and small, urban and rural, are being allocated . . . without taking account of the rights of current landholders. These practices reflect a disregard and in some cases confusion over the proper land administrative authorities to engage in when applying for land. Some government officials have taken land allocation decisions without consulting communities and individuals who have ownership or use rights to the land in question.\textsuperscript{89}

These provisions of the Land Act and the Draft Land Policy raise two red flags for land investors. First, the Draft Land Policy unambiguously states that many land deals have been carried out in an incorrect manner. This is, in part, due to the fact that state governors across the country believe that attracting foreign investment is among their top priorities and often do not strictly involve in development-related research, policy and practice and supported by the Government of the Netherlands).

\textsuperscript{86} Lorenzo Cotula, \textit{Land Deals in Africa: What is in the contracts?}, \textit{Int’l Inst. for Env’t & Dev.} 16 (2011).


\textsuperscript{88} The Land Act of 2009, \textit{supra} note 83, § 15.

\textsuperscript{89} \textit{Government of Southern Sudan, Draft Land Policy 2011}, 1.6.7. (copy held by author).
adhere to the law.  

At the same time, some communities have failed to hold their state and local governments accountable because they are reluctant to turn away foreign capital that may provide economic opportunities. The lack of accountability, however, is beginning to erode as communities are organizing and using the Government’s rhetoric about community ownership to demand respect for their interest in the land. These activities by the community increase the risk of expropriation on the grounds that an established investment violated the principles of the Land Act.

Second, the Land Act provision that grants the community the authority to allocate community land poses some major challenges to investors. Because South Sudanese communities are rarely a cohesive unit, it is difficult for investors to determine who may grant the land leases. South Sudanese communities are highly mobile and often host a mix of groups. It is not uncommon for a community to be comprised of those who have lived on community lands for generations, those who have left the area during the war and have recently returned and are claiming rights to the land, local strongmen who claim ownership of an entire region, and those who claim rights to land because they have historically enjoyed access to the land for seasonal grazing purposes.

In an example reported on by Financial Times and Rolling Stone Magazine, a U.S. firm entered into a fifty-five year lease agreement for 400,000 hectares of land with Paulino Matip, a local warlord turned

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90 David K. Deng, Competing Narratives of Land Reform in South Sudan, in HANDBOOK OF LAND AND WATER GRABS IN AFRICA: FOREIGN DIRECT INVESTMENT AND FOOD AND WATER SECURITY 454, 450 (Tony Allan et al. eds., 2013).
91 Id.
92 Id.
93 Id.
94 Deng, supra note 90, at 450 (“communities are often fractured and ambiguously defined entities”).
95 Id.
deputy commander-in-chief of the army. The U.S. firm packed its board with Southern Sudanese with strong political connections in the hope that political connections could circumvent the need to abide by the Land Act. Yet, the state governor did not believe the General, or his family for that matter, owned the land. The leader of the local county also knew nothing of the deal until nonprofit researchers asked him about it. The investor believed that his contract to the land was secure by the strength of General Matip. General Matip died in August of 2012, and it is unknown at the time of writing whether the land deal has been or will be nullified.

Even if investors find an authorized representative of a local community with whom to negotiate, local governance systems have been so severely undermined by years of war that leaders may not have the capacity to manage land transactions. A particularly extreme example of this occurred in 2008, when a Texas-based company reportedly negotiated a forty-nine-year lease on 600,000 hectares in Lainay County, Central Equatoria State. Unfortunately for the investor, Lainay County is comprised of only 340,000 hectares and it is not clear how the investor was given rights to 600,000 hectares. This egregious example shows a lack of professionalism by the investors, but also illustrates that some “leaders” in South Sudan’s rural areas either do not understand the scale of the deals in which

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97 Funk, supra note 96.

98 Deng, supra note 90, at 452.

99 Id.

100 Funk, supra note 96.


102 Email from David Deng, Research Director of South Sudan Law Society, to Author (Jan. 2, 2013, 9:37 EST) (on file with author).

103 Deng, supra note 90, at 449.
they are entering or are making illusionary agreements in order to make a quick fortune.\textsuperscript{104}

3. Corruption. – Corruption of both the local decision-making mechanism and the larger political apparatus of the host state can have a significant impact on the establishment and operation of a foreign investment.\textsuperscript{105} Government officials may require a bribe before signing investment agreements, may require fees for access to important decision-makers, or may sell land they do not actually own.\textsuperscript{106} Investors may decide to pay these bribes or fees for several reasons, most notably, because many projects would not ultimately occur without payment.\textsuperscript{107} Yet, if an investor decides to work within a corrupt system, it opens the investor up to liability under both national and multilateral anti-corruption enforcement measures.\textsuperscript{108}

Corruption is rampant in South Sudan. The President of South Sudan admitted publicly in 2012 that South Sudanese Government officials had stolen close to $4 billion since the end of the civil war.\textsuperscript{109} This amounts to about twenty percent of the country’s annual GDP.\textsuperscript{110} Corruption in South Sudan is caused by personal greed, but is also seen by some leaders as a necessary evil in a time of political instability.\textsuperscript{111} According to a Reuters special report

\begin{footnotes}
\item[104] Id. at 451.
\item[105] See RUBINS & KINSELLA, supra note 60, at 22.
\item[106] Id.
\item[107] See generally Susan Rose-Ackerman, The Political Economy of Corruption, in CORRUPTION AND THE GLOBAL ECONOMY (Kimberly Ann Elliott, ed., 1997), \url{http://www.iic.com/publications/chapters_preview/12/2iic2334.pdf} (highlighting the economic opportunities found in corrupt environments).
\item[108] Id. at 48.
\item[110] According to the Central Intelligence Agency (CIA), the GDP of South Sudan in 2011 was $21.12 billion. CIA WORLD FACTBOOK: SOUTH SUDAN, CENT. INTELLIGENCE AGENCY, \url{https://www.cia.gov/library/publications/the-world-factbook/geos/od.html} (last visited Nov. 25, 2012).
\end{footnotes}
from 2012, “the rulers of the world’s newest nation have fostered a system of patronage and reward to provide short-term stability in this vast and ethnically diverse country. But that has fuelled rampant corruption that undermines the stated ideals of the country’s liberators and its foreign backers.”

The Southern Sudan Anti-Corruption Commission Act of 2009 governs anti-corruption efforts in South Sudan. This Act establishes an independent commission “responsible for the investigation of cases of corruption with a view to protecting public property and combating administrative malpractices in public institutions.” The Commission’s role was further clarified in the Transitional Constitution in 2011, which states:

without prejudice to the powers of the Ministry of Justice in public prosecution, the Commission shall, inter alia, (a) protect public property; (b) investigate cases of corruption involving public property and public interest; and it shall submit such investigation to the Ministry of Justice for prosecution; (c) combat administrative malpractices in public institutions; and (d) pursuant to the provisions of Article 121 (1) herein, require all persons holding such public offices to make confidential formal declarations of their income, assets and liabilities.

114 Id. § 6(1).
While the Interim Constitution grants the Commission the power to prosecute cases of corruption, some analysts argue that this rarely occurs in practice. Some attribute the failure of the Commission to prosecute cases to the lack of clear lines demarcating the role of the Justice Ministry and the Commission. The failure to establish clear lines has contributed to a situation where the Commission has the authority to prosecute corruption but lacks the experienced staff and political will to be an effective anti-corruption entity.

Recent attacks on activists and officials who publicized corruption raise serious questions about the will of the GoSS to combat corruption within its ranks. However, the current state of affairs may not continue and investors cannot become complacent. The GoSS is under intense pressure to crack down on corruption and is receiving ample support from the international community to strengthen its anti-corruption capabilities. These pressures and

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117 Id.

118 Id.


inducements may lead to more investigations and more oversight of investment deals.

U.S. land investors must worry about more than just corruption from within, and possible enforcement efforts taken by the GoSS. U.S. investors must strictly adhere to anti-bribery regulations on international investments placed on them by the U.S. Government. Chief among the U.S. regulations that apply to large-scale land acquisition in Africa is the Foreign Corrupt Practices Act of 1977 (FCPA).\(^\text{121}\) Additionally, thirty-nine countries, including the United States, have adopted the Convention on Combating Bribery of Foreign Officials in International Business Transactions (Anti-Bribery Convention), which mirrors the FCPA in many ways.\(^\text{122}\)

Land investment in South Sudan is particularly ripe for FCPA violations. Democracies with weak legal systems, endemic corruption, and poor infrastructure pose significant FCPA risks.\(^\text{123}\) As many non-U.S. persons or entities vying for land in South Sudan come from countries with no FCPA counterpart,\(^\text{124}\) they may be permitted to bribe local officials and place U.S. persons or firms at a competitive disadvantage in securing leases. In such an environment,


\(^{124}\) Parties to the Conv. on Combating Bribery of Foreign Public Officials in Int'l Bus. Trans. do not include China or any Middle Eastern country. South Africa is the only African country that has ratified the Convention. For a full list of state parties, see Anti-Bribery Convention, OECD (Sept. 20, 2014) http://www.oecd.org/daf/anti-bribery/anti-briberyconvention/.
U.S. investors may feel compelled to resort to paying bribes in order to not lose the investment opportunity.\textsuperscript{125} Violations of the FCPA can lead to large civil and criminal penalties, sanctions, and remedies, including fines, disgorgement, and/or imprisonment.\textsuperscript{126} Thus, international investors must take the law seriously and develop both internal compliance programs and transaction-specific safeguards.\textsuperscript{127}

4. Litigation and Reputational Risks. – According to the Interim Constitution of South Sudan, “the right to litigation shall be guaranteed for all persons; no person shall be denied the right to resort to courts of law to redress grievances whether against government or any individual or organization.”\textsuperscript{128} If the courts of South Sudan follow the example of the courts of other African countries, it is likely that investors in South Sudan face a risk of litigation and the associated risk to the investor’s global reputation.

It is too soon to determine how South Sudan’s nascent legal system will address potential litigation against land investors. However, courts of other African countries have begun to broaden the legal liability of international corporations operating in their country.\textsuperscript{129} There has been a growth in litigation against transnational corporations in Africa over the past two decades,\textsuperscript{130} which in large part can be attributed to campaigns by non-governmental organizations (NGOs) and media reports about the damage inflicted by oil and mining companies in Africa.\textsuperscript{131} The globalization of media

\textsuperscript{125} Low & Davis, supra note 123.
\textsuperscript{126} Id. at 315.
\textsuperscript{127} Id. at 315.
\textsuperscript{130} See id. (Between 1981 and 1986, Nigerian courts heard 24 claims against Shell Oil. In early 1998, Shell was reportedly involved in over 500 cases. Chevron was involved in only 50 cases in the entire 1980s and by the end of the 1990s was involved in over 200 cases).
\textsuperscript{131} Id.
and the rise of new technologies, such as the Internet and cellular phone cameras, enabled NGOs to detect and publicize wrongdoing with speed and efficiency never seen before. These campaigns have generally made judges more responsive to those injured by the acts of oil and mining companies.

While awards given by African courts are relatively small compared to American or European courts, there is great risk of damage to a company’s reputation. Even if the investor or company obtains a legal victory, the damage inflicted upon its reputation may outweigh the liability of a lawsuit. Damage to a brand can eliminate millions of dollars from a company’s share value, initiate consumer boycotts, and even result in serious recruitment problems. According to a survey of major corporations by the Economist magazine’s intelligence unit, companies found reputational problems to be the most costly form of risk in financial terms. Among those who had faced reputational problems, twenty-eight percent described the financial toll as major.

C. The Risks of Land Investment in Southern Sudan for Communities

Other articles and books have comprehensively addressed the threats to the rights of communities posed by the wave of large-scale land acquisition in Africa. Some studies argue that international land investment contributes to food insecurity, environmental

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132 David Spence, supra note 23, at 61-62.
133 See generally Frynas, supra note 128, at 375 (quoting the Nigerian Chief Justice of the High Court in 1989, “Judges . . . are more aware now of oil industry than thirty years ago . . . . The judge cannot be isolated from what is currently going on in society in line with a particular subject.”); Id.
134 Id. at 373.
137 Id.
138 See de Schutter, supra note 40, at 503.
139 See, e.g., Geary, supra note 15.
degradation, corruption, lack of benefits for small-scale farmers, and the possibility of eviction and displacement. Because many of the risks to communities have been covered by other studies, this article will only focus on the most serious risks: social turmoil and armed conflict due to corruption and lack of benefits flowing to the local population.

South Sudan desperately needs investment in the agricultural sector. According to a World Food Program 2012 assessment, thirty percent of South Sudanese households are either moderately or severely food insecure. About forty-four percent of households receive at least one form of food-related assistance, such as food aid or seeds. Approximately eighty-five percent of South Sudanese are involved in agriculture for their livelihood and almost all South Sudanese are small-scale subsistence farmers. Because subsistence farmers do not produce food for the local market, much of the food found in South Sudan’s urban markets is imported from Uganda,

141 See, e.g., Cotula & Vermeulen, supra note 38, at 1243.
142 See, e.g., de Schutter, supra note 40.
143 DENG & MITTAL, supra note 49, at 42.
144 See generally WORLD FOOD PROGRAMME, FOOD SECURITY ANALYSIS: SOUTH SUDAN FOOD MONITORING COLLABORATIVE (Oct. 2012), http://documents.wfp.org/stellent/groups/public/documents/ena/wfp253180.pdf (The World Food Programme uses the term food security as a composite indicator that includes information on food consumption (Food Consumption Score), coping strategies (Coping Strategy Index), relative expenditure on food and reliability and sustainability of income sources).
145 Id. (detailing the food security situation in South Sudan in 2012).
Kenya, and other countries. According to the U.S. Agency for International Development (USAID), over the last three years, South Sudan imported approximately $262 million worth of produce from neighboring countries, half of which were fresh vegetables that could, and should, be grown locally.

The South Sudanese Government believes their best hope for food security comes from increasing private investment. Experience around the world suggests that the central path toward improving food security is through private investment and entrepreneurship. Some analysts argue that if private investment is properly channeled to support farming, South Sudan may be able to increase its food production to target levels of one million metric tons of cereal production annually. Private investment in agriculture also has the potential to generate government revenues through leases and tax revenues, create employment, and bring the technology and know-how required to develop infrastructure.

While private agricultural investment has the potential to unlock broad scale economic growth and development, a lack of meaningful consultations, low employment prospects, and the lack of domestic food security may undermine support for the government’s investment promotional activities and could lead to social turmoil and even armed conflict. As stated earlier, the Land Act of 2009

\[\text{Id.}\]
\[\text{Id.}\]
\[\text{See SPLM Leaders Call for More Investments in Agriculture in Upper Nile, supra note 1.}\]
\[\text{DEININGER, supra note 5, at 34-42.}\]
\[\text{See generally id. (arguing that rural populations have sacrificed so much in order to control their community lands. Also, attempts to undermine community land ownership are likely to face stiff opposition from groups at the local level).}\]
promised a community-led process of agricultural development and consultations with community leaders about land policy. Yet, there is a danger the process of large-scale land acquisition will reflect a “continuation of the war-time economy which was characterized by capital flight, one-sided contracts that favor the foreign investor, and the government prioritizing the need of the investor over the local population.”

According to a report by the aid organization Norwegian People’s Aid, “generally speaking, there is a serious deficiency in the extent to which communities are being consulted regarding land investments.”

Southern Sudanese expect large-scale investment to bring jobs to the local population. Yet, many of the foreign multinational entities investing in South Sudan plan to employ highly mechanized types of farming that maximizes returns. Historic evidence on the effects of foreign direct investment in agriculture suggests the benefits of the investment do not materialize when the investment uses highly mechanized production technologies. High-tech farming reduces the need to create local employment and may have more adverse environmental impacts, such as a more rapid depletion of water supplies and land degradation. Additionally, benefits in the form of jobs are further limited should the investor import labor to manage high-tech farming enterprises. It is

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154 Deng, supra note 90, at 451.
156 Id. at 32 (explaining a case study where the company promised 6,000 jobs but only hired 600 and laid off most of these individuals after three years).
157 Deng, supra note 90, at 453.
158 HALLAM, supra note 10, at 7.
159 Id. at 7.
common for investors to import management and skilled positions, leaving locals with only seasonal and low paying jobs.\footnote{Id.}

Finally, there is a conflict inherent in international agricultural investment in food insecure countries like South Sudan. Investors typically wish to export agricultural yield in order to meet their own food security needs or to obtain profits by selling the products on the international market.\footnote{COTULA, supra note 86, at 38.} Host countries, on the other hand, justify large-scale land acquisition as necessary to meet the host country’s own food security needs.\footnote{Id.} Many of the contracts investigated by researchers are silent on this issue and leave the investor free to decide whether to export or sell on local markets.\footnote{Id.} The choice to mainly export agricultural products may result in increased social costs.

The South Sudanese have high expectations about what independence will bring in terms of development\footnote{Press Release, Amid ‘Huge Expectations’ for Transition to Democracy, South Sudan Will Need All Support It Can Get, Special Representative Tells Security Council, U.N. Press Release SC/10450 (Nov. 15, 2011), http://www.un.org/press/en/2011/sc10450.doc.htm.} and demand a “peace dividend” from their government.\footnote{See ERIN MCCANDLES, UN PEACEBUILDING SUPPORT OFFICE, PEACE DIVIDENDS AND BEYOND 24 (2012), http://www.un.org/en/peacebuilding/pbso/pdf/peace_dividends.pdf.} The people of South Sudan expect land investment to create employment opportunities and food security and expect to be involved in land ownership and use decisions.\footnote{DENG & MITTAL, supra note 49, at 15.} Any attempt to remove communities from the decision-making process will be faced with stiff opposition, and possibly, armed conflict.\footnote{Id. at 15.}
II. Lessons from the Experience of Extractive Industries in Nigeria

The experience of international engagement in the extractive sectors in Africa is a cautionary tale for both host governments and land investors. Experience has shown that African nations that are rich in primary commodities, whether fossil fuels, minerals, timber, or land, often fall prey to the “resource curse,” unless governments and investors take certain steps to minimize risk. Competition for control of revenues from primary commodity exports and rents continues to fuel cycles of corruption, conflict, and poverty in many African countries. Where large-scale resource exploitation preceded the formation of a functional state, the effect of large-scale commodity extraction has been negative, on average, and disastrous in some cases.


170 See Norman, supra note 19, at 1-2.

171 See KARL, supra note 169.

172 Governments that rely on revenues from primary commodities face risks for two main reasons: (1) rents and (2) price shocks. Rents are payments by foreign entities to the government of a host country. Rents can come in the form of oil leases, leases of land for plantations or agricultural development, or passage rights through a canal. When a country allows foreign entities to exploit natural resources, these rents form a large nontax income stream. Where a government has little or no need for taxing its citizens, citizens lose the incentive to demand accountability of those who spend the tax revenues, and consequently, governments tend to be more corrupt. See Paul Collier & Anke Hoeffler, Resource Rents, Governance, and Conflict, 49 J. CONFLICT RESOLUTION 625, 627 (2005); H. Mahdavy, The Patterns and Problems of Economic Development in Rentier States: The Case of Iran, in STUDIES IN THE ECONOMIC HISTORY OF THE MIDDLE EAST 428, 428 (M.A. Cook ed., 1970); Emeka Duruijbo, The World Bank, Multinational Oil Corporations, and the Resource Curse in Africa, 26 U. PA. J. INT’L ECON. L. 1, 17 (2005).
conflict is particularly acute in post-conflict settings where tensions between groups linger, legal and other accountability mechanisms are weak, and many military age men, still armed and fresh off the battlefield, are looking for employment.173

Governments that rely on revenues from the export of primary commodities are also susceptible to the deleterious effects of price volatility.174 The global prices of primary commodities are more volatile than other prices largely due to the impact of weather and new discoveries on the supply of these products.175 Spikes and drops in revenues can make economic management very difficult, often resulting in over-spending and corruption when the price of the commodity is high, and public sector debt and popular frustration when the global price is low.176

The experience of international oil and gas companies in Nigeria between 1973 and 1999 is often cited as the poster child for poor management of primary commodity exploitation.177 When the Nigerian civil war ended in 1970, the country began a thirty-year period of almost uninterrupted military rule.178 Nigerian military

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174 Collier & Hoeffler, supra note 172, at 627.
175 Id.
176 Id.
178 See Jędrzej Georg Frynas, Oil in Nigeria: Conflict and Litigation between Oil Companies and Village Communities 42-43 (2000) (arguing that between 1970-1999 there was only one civilian government in charge of Nigeria. President Shenu Shagari held office from 1979-1983 but was overthrown by a coup on December 31, 1983).
dictators led the country down a path where the government became almost entirely reliant on oil revenues. In 1970, twenty-six percent of the government’s total revenue came from oil revenue. By the end of military rule in 1999, oil revenues made up over eighty percent of all government revenues. Despite the massive increase in oil revenue, Nigeria in 1999 was one of the poorest counties in the world. That year, Nigeria’s per capita GDP was thirty percent lower than in 1965 despite oil revenues of roughly $350 billion during the intervening period.

In addition to the economic costs of oil dependency, the people of the Niger Delta were routinely subjected to extra-judicial executions, arbitrary detentions, and “draconian restrictions on the rights to freedom of expression, association, and assembly” by the Nigerian security forces. These violations of human rights have been committed principally in response to protests about the...
activities of the multinational oil companies. Further, the environment has been severely degraded by oil development. By one estimate, the Niger Delta endured oil spills equivalent of the Exxon Valdez disaster every year for fifty years.

The FGN and multinational companies operating in Nigeria learned from previous mistakes. At the turn of the century the government and oil companies began to implement reforms and change their behavior. These changes were intended to reduce political risk for investors, build confidence in state institutions, and ensure Nigeria’s natural resource wealth is used for the benefit of the population. While Nigeria has a long way to go, these reforms have begun to bear fruit.

A. Government Reforms

Since 1999, the FGN has been carrying out an ambitious reform agenda that focuses on fiscal responsibility, transparency and accountability, development, and privatization. The specific

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185 Id.
188 See Collier, supra note 24, at 3.
reforms that can most effectively teach governments and investors involved in large-scale land acquisition are discussed below.

1. Anti-corruption and Transparency Measures. – When the administration of President Olusegun Obasanjo assumed office in 1999, corruption “had eaten deep into the entire fabric of the Nigerian society.”

   President Obasanjo promised to fight corruption during his election campaign, and Section 15(5) of the new Constitution of 1999 required that the state abolish corrupt practices and abuses of power. Accordingly, the first legislation President Obasanjo brought to the National Assembly was the Corrupt Practices and Other Related Offenses Act of 2000. The Legislature subsequently enacted the Economic and Financial Crimes Commission Act of 2004 establishing the Economic and Financial Crimes Commission.

   The Corrupt Practices Act made it a crime for government officers to ask for or receive any benefit for their governmental duties outside of government salary. The Act further criminalizes bribery by any individual of a public official, and makes the failure of a government official to report an attempted bribe punishable by a fine.


   195 Id.

   196 Corrupt Practices Act § 8(1).

   197 Id. §§ 18, 23 (related to contract awards).
or a prison term not exceeding two years or both.\textsuperscript{198} The Act gives the power to investigate corruption to an Independent Corrupt Practices Commission.\textsuperscript{199} After concerns arose over the political independence of the Commission, an amendment to the Corrupt Practices Act in 2002 clarified the roles and responsibilities of the Commission and gave the power to prosecute offenses under the Act to the Attorney-General.\textsuperscript{200} Some analysts bemoan the lack of political will by the government to fight corruption\textsuperscript{201} and how that has stalled the effective implementation of the Act.\textsuperscript{202} However, others argue the Act fills a necessary gap in the Nigeria’s anti-corruption regime and is “a strong step towards the eradication of corrupt practices in Nigeria.”\textsuperscript{203}

The Economic and Financial Crimes Commission of 2004 ambitiously attempts to eradicate “non-violent and illicit activity committed with the objective of illegally earning wealth.”\textsuperscript{204} Financial crimes include money laundering, contract scams, counterfeiting, and fraud.\textsuperscript{205} The Economic and Financial Crimes Commission has been a resounding success.\textsuperscript{206} In its first year the Commission recovered over $700 million, arrested more than 500 notorious criminals, and

\begin{thebibliography}{9}
\bibitem{198} Id. § 22.
\bibitem{199} Id. § 3.
\bibitem{200} See Ogbu, supra note 192, at 130-31 (arguing that this was a bad decision and that the Commission should be given the concurrent power to prosecute corruption).
\bibitem{201} See, e.g., HUMAN RIGHTS WATCH, CRIMINAL POLITICS: VIOLENCE, GODFATHERS, AND CORRUPTION IN NIGERIA 31 (Oct. 12, 2007), \url{http://www.hrw.org/reports/2007/nigeria1007/nigeria1007webwcover.pdf}.
\bibitem{202} Ogbu, supra note 192, at 128-29.
\bibitem{204} Economic and Financial Crimes Commission (Establishment) Act § 46, cited in Ogbu, supra note 192, at 131-34.
\bibitem{205} Id. § 6.
\bibitem{206} Ogbu, supra note 192, at 134.
\end{thebibliography}
investigated and prosecuted high profile cases such as the former Inspector General of the Police.\textsuperscript{207}

In addition to national legislation, Nigeria was the first country to adopt the Extractive Industries Transparency Initiative (EITI).\textsuperscript{208} The EITI is a global initiative that promotes transparency in company payments and government revenues from oil, gas, and mining.\textsuperscript{209} Countries voluntarily sign up to the EITI and report to an internationally appointed independent auditor on a monthly basis.\textsuperscript{210} The Nigerian experiment with the EITI is ambitious and path breaking.\textsuperscript{211} Audit reports were carried out between 1999 and 2004 and subsequently made available to the public. According to Nicholas Shaxson of the British Think Tank, Chatham House:

These reports... contributed to significantly better transparency in Nigeria’s oil industry, collecting and publishing an array of detailed and useful information for the first time. Nothing remotely like this has been done before, let alone published. The reports went far beyond the basic core requirements of global EITI; it produced not only raw data on the industry and on tax and other fiscal matters; but it also provided crucial and useful insights into processes involved in the industry that have helped many insiders and outsiders to see the oil sector in overview for the first time.\textsuperscript{212}

2. Extractive Sector Regulatory Regime. – The Petroleum Act of 1969\textsuperscript{213} is the primary legislation underpinning the oil and gas

\textsuperscript{207} Id.
\textsuperscript{209} Id.
\textsuperscript{210} Id.
\textsuperscript{211} Id.
\textsuperscript{212} Id. at 2.
regulatory regime in Nigeria. The Petroleum Act was enacted in the midst of the Nigerian Civil War and vests the entire ownership and control of all petroleum in, under, or upon, any lands in the country to the government. While the government owns the oil, the Petroleum Act further states that Nigerian citizens or companies incorporated in Nigeria may be granted an oil exploration license, an oil-prospecting license, or a lease to search for and carry away petroleum. The holders of a license or lease are granted extensive rights and powers over the land. The First Schedule of the Petroleum Act limits the rights of lease or license holders by stating that a licensee or lessee may not enter upon, occupy, or exercise any of the rights and powers conferred by his license or lease over any private land until “fair and adequate compensation has been paid to the persons in lawful occupation of the land.” The First Schedule also requires that within ten years of the enactment of the lease, at least seventy-five percent of all employees hired by a lessee or licensee must be Nigerian citizens.

The Petroleum Act remains in force, but some of its provisions that protect the rights of investors and communities were overtaken by events. When Nigeria joined the Organization of Petroleum Exporting Companies (OPEC) in 1971, it began to institute reforms in line with OPEC’s preference for indigenization of oil industries. In 1972, the government announced that it assigned all of the areas of the country not covered by an existing license or lease to the Nigerian National Petroleum Company (NNPC). In order to take advantage of foreign capital and expertise, the NNPC was authorized to form joint ventures with international

\[\text{Id. § 1.}\]
\[\text{Id. § 2(1).}\]
\[Petroleum Act § 36.\]
\[\text{Id.}\]
\[Omorogbe, supra note 216, at 275-76.\]
\[Frynas, supra note 178, at 31.\]
\[Omorogbe, supra note 216, at 277.\]
companies. From 1971, the government gradually set up joint ventures with oil exploration and production companies and acquired shareholding ventures. By 1979, the government had acquired a sixty percent ownership of all major foreign oil companies in the country.

Under a joint venture model, the NNPC combined the functions of an oil company with the regulatory powers of a government ministry. This led to a “fox guarding the hen house” situation where the incentives to regulate the industry based on social and environmental needs of the Nigerian people were diminished.

In March 1996, United States and Nigerian human rights groups partnered to jointly submit a legal communication to the African Commission on Human and Peoples’ Rights alleging that Nigeria, through a joint venture between NNPC and Shell International, facilitated acts that were in violation of its commitments under the African Charter. The complainants alleged that, because the FGN was involved in oil production through the NNPC, it “did not monitor or regulate the operations of oil companies, and in so doing paved a way” for destruction of the environment and human rights.

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223 Frynas, supra note 178, at 31.

224 Id. The sixty percent figure cited above exempts a production-sharing agreement with Ashland and the Tenneco-Mobil-Sunray venture.

225 Id. at 33.


abuses. After finding Nigeria in violation of its African Charter obligations, the Commission appealed to the FGN to ensure that “the safe operation of any further oil development is guaranteed through effective and independent oversight bodies for the petroleum industry.”

Many observers of Nigeria believe reform of the countries’ regulatory regime is past due. While privatization of the oil industry proceeded steadily since the end of military rule and the government transitioned to a policy of awarding all new contracts via production sharing contracts instead of joint ventures, the basic regulatory regime has remained more or less unchanged. Several

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228 Id. ¶ 55.
229 Id.
231 See generally Oil and Politics in Nigeria, PBS NEWSHOUR, Apr. 5, 2007, http://www.pbs.org/newshour/indepth_coverage/africa/nigeria/oil.html (noting that President Olusegun Obasanjo introduced reforms in 2003 to privatize the government-owned and subsidized oil operations, or parastatals, partly in an attempt to attract more capital investment and foreign business partners).
232 Emeka Duruigbo, The Global Energy Challenge and Nigeria’s Emergence As A Major Gas Power: Promise, Peril or Paradox of Plenty?, 21 GEO. INT’L ENVTL. L. REV. 395, 412 (2009) (Production sharing contracts are agreements “under which a foreign company, serving as a contractor to the host country, recovers its costs each year from production and is further entitled to receive a certain share of the remaining production as payment in kind for the exploration risks assumed.”); ZHIGUO GAO, INTERNATIONAL PETROLEUM CONTRACTS: CURRENT TRENDS AND NEW DIRECTIONS 72 (1994) (The switch to production sharing contracts has been attributed to the government of Nigeria’s inability to adequately meet its cash call obligations to fund joint venture operations); Olajumoke Akinjide-Balogun, Nigeria: Legal Framework Of The Nigerian Petroleum Industry, MONDAQ (Apr. 3, 2011), http://www.mondaq.com/x/10726/Legal+Framework+Of+The+Nigerian+Petroleum+Industry.
unsuccessful attempts have been made over the last decade to pass reform legislation. Finally, in the spring of 2014, the passage of a Petroleum Industry Bill, adjusting the fiscal and legal regime governing the petroleum and natural gas industry, seems to be gathering steam in the Nigerian National Assembly.

The Petroleum Industry Bill seeks to reshape the entire oil and gas industry in Nigeria. The Bill establishes a series of agencies and positions charged with overseeing the industry, and introduces a more transparent and competitive license award process. The major oil companies are actively lobbying for changes in the bill and their opposition has in part caused the delay. Discussion of the


235 Draft Petroleum Industry Bill § 1(a-k) (Objectives include: enhance exploration and exploitation of petroleum resources in Nigeria and promote petroleum production for the benefit of the Nigerian people; create a conducive business environment for petroleum operations; establish a progressive fiscal framework that encourages further investment in the petroleum industry whilst optimizing accruable revenues to the Federal Government of Nigeria; establish a commercially oriented and profit driven National Oil Company; deregulate and liberalize the downstream petroleum sector; create an efficient and effective regulatory entity; promote transparency, simplicity and openness; promote the development of Nigerian content in the petroleum industry; protect health, safety and environment; in the course of petroleum operations; and optimize domestic gas supplies, in particular for power generation). Id.

236 Draft Petroleum Industry Bill § 190-1; see also SNR Denton, supra note 230.

benefits and drawbacks of the Bill is beyond the scope of this discussion, but passage of these reforms would address some of the concerns of the African Commission and remove the cloud of uncertainty facing investors.

3. Land Use Act. – The Land Use Act of 1978 vested the ownership of all land within a state to the governor of that state in an effort to remove the traditional barrier to alienation of land and allow for oil to be extracted cheaper and more efficiently. Prior to the Land Act, the traditional land tenure system made it difficult to purchase land owned by a community or family because the system required oil companies to negotiate extraction rights with many stakeholders.

The Land Act is one of Nigeria’s most controversial laws, because of the effect on both customary land rights and the inability

tells-nigeria/ (arguing that there are strong indications that one of the reasons International Oil Companies (IOCs) are opposing the PIB is the lack of guarantees to existing investors. Holders of existing joint-venture and Production Sharing Contracts (PSC) licenses and leases would be required to re-apply for their respective contracts within a year of the PIB’s passage).


The traditional land tenure system was in effect in southern Nigeria. The northern part of Nigeria operated under Islamic law and had a different land system. See L. K. Agbosu, The Land Use Act and the State of Nigerian Land Law, 32 J. AFRICAN LAW 1, 4-5 (1988).
of communities to assert their rights in connection to oil exploitation.\textsuperscript{243} Arguably the most controversial section of the Land Act is Section 28, which provides that land may be appropriated for “overriding public interest.”\textsuperscript{244} Overriding public interest in this context includes “the requirement of the land for mining purposes or oil pipelines or for any purpose connected therewith.”\textsuperscript{245} The Act legitimized the expropriation of land from traditional communities whenever oil interests were present and allowed oil companies to gain easier access to the land and oil resources because companies were not obliged to negotiate with landowners.\textsuperscript{246} After enactment of the Land Use Act, all negotiations on the alienation of land were to go through the state. Nigerian scholar Jedrzej Georg Frynas has argued that as a consequence of the Land Act “companies had lesser economic incentive to investigate the local patterns of land ownership, which can partly explain the carelessness with which oil companies deal with communities.”\textsuperscript{247}

Both President’s Obasanjo and Umaru Musa Yar’Adua advocated for reform or amendment of the Land Use Act.\textsuperscript{248} The Legislature has failed to enact the proposed amendments to the Act and no major progress has been seen during the Administration of President Goodluck Jonathan.\textsuperscript{249}

\begin{itemize}
  \item \textsuperscript{244} Land Use Act § 28.
  \item \textsuperscript{245} \textit{Id.} § 28(2)(c).
  \item \textsuperscript{246} See Ako, supra note 243, at 294-95.
  \item \textsuperscript{247} Frynas, supra note 178, at 80.
\end{itemize}
4. Investment Promotion and Protection. – While the government of Nigeria, through the NNPC, was gaining a larger share of the oil market and promoting an indigenization policy in the 1970s and 80s, the government paradoxically also introduced new incentives for foreign oil companies to stimulate new exploration. By the mid-1990s, the Nigerian government was ready to promote international investment and implement measures to protect foreign capital. The Nigerian Investment Promotion Commissions Act of 1995 (NIPC) is the primary legislation regulating foreign investment in Nigeria. The law was amended in 1998 to include the petroleum industry within its scope.

Because the FGN feared foreign investors were reluctant to invest in the country due to the indigenization program of the 1970s and 1980s, and particularly the nationalization of British Petroleum by the Nigerian Government in 1978, the NIPC Act provides

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250 Frynas, supra note 178, at 33.
251 See generally Obida Gobna Wafure & Abu Nurudeen, Determinants of Foreign Direct Investment in Nigeria: An Empirical Analysis, 10 GLOBAL J. OF HUMAN SOCIAL SCIENCE 26, 26 (2010) (reasoning that the new industrial policy of 1989, the establishment of the Nigeria Investment Promotion Commission (NIPC) in early 1990s, and the signing of Bilateral Investment Treaties (BITs) in the late 1990s are all examples of the Nigerian authorities trying to attract FDI via various reforms).
252 See Id. at 26. While passage of the amended NIPC Act preceded the Obasanjo administration by a year, implementation of the NIPC Act was left to the civilian authorities and is often grouped as part of the reforms initiated by the civilian government.
254 Ekwueme, supra note 253, at 179.
255 See ANN WEYMOUTH GENOVA, OIL AND NATIONALISM IN NIGERIA, 1970-1980 125 (2007) (arguing that the FGN nationalization of BP was justified as an effort to punish the United Kingdom for its failure to support anti-apartheid efforts in South Africa and Zimbabwe. However, the public narrative leaves too many gaps and argues that the nationalization fits within the larger trend of economic nationalism that the military government was pursuing in the 1970s.).
concrete investment guarantees.\textsuperscript{256} Section 25 (1)-(2) of the NIPC Act provides guarantees against nationalization and expropriation and provides for fair and adequate compensation and access to courts should land be expropriated.\textsuperscript{257}

Additional guarantees against direct and indirect expropriation have come in the form of bilateral investment treaties and individual contract clauses.\textsuperscript{258} Nigeria currently has twenty-two Bilateral Investment Treaties in effect\textsuperscript{259} that elect to have disputes of all sorts settled by international arbitration forums such as at the International Center for the Settlement of Investment Disputes (ICSID).\textsuperscript{260} Section 26(2) of the NPC also allows for the parties to a contract to determine how the dispute will be settled.\textsuperscript{261} Most

\textsuperscript{256} Ekwueme, \textit{supra} note 253, at 188.
\textsuperscript{257} Investment Promotion Commissions Act § 25(1)-(2) states:

\begin{quote}
(a) No enterprise shall be nationalized or expropriated by any Government of the Federation; and

(b) No person who owns whether wholly or in part, the capital of any enterprise shall be compelled by law to surrender his interest in the capital to any other person.

(2) There shall be no acquisition of an enterprise to which this Decree applies by the Federal Government unless this acquisition is in the national interest or for a public purpose and under a law which makes provisions for:

(a) payment of fair and adequate compensation; and

(b) a right of access to the courts for the determination of the investor’s interest or right and the amount of compensation to which he is entitled.”
\end{quote}

\textsuperscript{259} Ekwueme, \textit{supra} note 253, at 198-202.
\textsuperscript{260} \textit{Id.}
\textsuperscript{261} Investment Promotion Commissions Act § 26(2).
Nigerian petroleum agreements contain local arbitration clauses and are thus resolved in Nigerian arbitral tribunals.262

The enactment of the NIPC Act has not opened the floodgates of new investment in Nigeria.263 While the risk of expropriation diminished, other forms of risk remain high in Nigeria and deter investment.264

B. Reforms of Multinational Corporations

Because the Petroleum Act gives ownership of oil resources to the government and the Land Use Act vests ownership over land to state governors, multinational companies made the mistake of believing the government was the only Nigerian stakeholder involved in their business. This failure, combined with some heinous practices by oil companies, produced severe reputational damage to companies operating in Nigeria.265 The behavior of oil companies in Nigeria also resulted in an increasing number of civil suits filed against companies266 and violent conflicts between oil companies and village communities.267 Multinational oil companies have thus adjusted their behavior since 1995 by, among other things, implementing

262 Ekwueme, supra note 253, at 203.
263 Id.
264 Id. See also Alford, supra note 258, at 507 (noting that frequent changes in government, the Biafran civil war, the continuing unrest in the Niger Delta, the imposition of Sharia law in the northern states of Nigeria, endemic corruption, armed violence, an erratic power supply, and a persistent shortage of fuel have discouraged foreign investment).
266 See Frynas, supra note 129, at 371.
development programs, adjusting environmental practices, and engaging with communities.268

Generally, foreign investors can protect their investments against political risk by structuring its business in a way that local population have a stake in the project’s success.269 In the same way that community opposition to an investment can lead to governmental adversity to an investment, community interest in an investment can lead to a stable investment environment.270 Often, governments compel foreign investors to implement certain measures aimed at building community support by host nation law.271 Some corporations, however, implemented policies on their initiative to reduce reputational or legal risk or to gain consent from a local community to carry out business activities in a certain area.272

1. Changes in behavior due to reputational risks. – Nigeria has experienced a rise in litigation against international corporations since


269 RUBINS & KINSELLA, supra note 60, at 40.

270 Id.

271 Id.


the end of military rule in 1999. Litigation not only increased in Nigerian courts, but companies from the United States have also been hauled in front of U.S. courts and other international courts for actions that occurred in Nigeria.

As explained above, a company’s reputation has a direct bearing on the likelihood of successful litigation. No other incident impacted the reputation of oil companies in Nigeria more than the violence and environmental degradation in Ogoniland. Oil companies gained billions of dollars from the oil extracted from the land of the Ogoni people in the Niger Delta since oil was discovered there in the 1950s. Dissatisfied Ogoni leaders joined with international campaigners in the 1990s in a campaign to address the deleterious impact of oil exploitation. The Nigerian government

274 Frynas, supra note 129, at 371.
278 Id.
responded to this campaign through repressive tactics that resulted in thousands of Ogoni deaths and numerous other serious human rights abuses. Under pressure from the Ogoni and international NGOs, Shell was forced to pull out from Ogoniland in 1993.

In response to the Ogoniland tragedy and other situations that led to reputational damage, oil companies in Nigeria took action to improve their environmental and human rights practices. While oil companies undertook social responsibility initiatives for decades, the quality of the investments greatly improved since 1995. Since then, Shell International, for example, “has re-invented its corporate strategy in line with principles of sustainable development and it has committed itself to a level of stakeholder engagement on its environmental and social performance which would have been unthinkable in 1995.” Prior to 1995, Shell “placed emphasis on one-time ‘gifts,’ rather than support for sustainable development programs.”

Previous development initiatives were uncoordinated and focused on what Shell felt the communities needed, as opposed to engaging the communities in their own development and making communities stakeholders in Shell’s projects. Instead of a top down approach, Shell’s new approach “places emphasis on the empowerment of communities” and empowers communities and local governments to produce development plans, in which communities set their own development priorities.

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279 See generally HUMAN RIGHTS WATCH, supra note 184 (exploration of human rights violations related to oil exploration and production in the Niger Delta).

280 See INTERNATIONAL CRISIS GROUP, supra note 267, at 1.

281 Uwem E. Ite, Multinationals and Corporate Social Responsibility in Developing Countries: A Case Study of Nigeria, 11 CORP. SOC. RESPONSIB. ENVIRON. MGMT 1, 4 (2004).

282 Id.

283 Boele, supra note 277, at 74.

284 Ite, supra note 281, at 5.

285 Id.

286 Id. at 6.
2. Changes in behavior due to government regulation. – In addition to actions taken by investors to improve their reputation and guard against the risk of litigation, the FGN enacted laws that guide the behavior of oil and gas companies. The Nigerian Oil and Gas Industry Content Development Act of 2010 is intended to support economic development by promoting indigenous service providers and locally supplied goods to support the oil and gas industry.\(^\text{287}\) The law sets minimum thresholds for the use of local labor, services, and materials,\(^\text{288}\) with a goal of embedding the oil industry within the wider Nigerian economy by creating economic linkages between Nigerian businesses and the oil and gas companies.\(^\text{289}\) According to an analysis by KPMG, “if properly implemented, the Act has the potential to facilitate the participation of Nigerians in the oil and gas sector, and stimulate the development of other sectors of the economy, especially the manufacturing sector.”\(^\text{290}\)

Another way the Government is using law to change the behavior of oil companies is to require companies to set aside funds for local development initiatives. The Niger-Delta Development Commission (Establishment, etc.) Act\(^\text{291}\) requires an oil producing or


\(^{288}\) Id.


\(^{290}\) Id.

gas processing company operating in the Niger-Delta Area to pay three percent of its total annual budget to a Development Commission.\textsuperscript{292} The Development Commission is charged with formulating development policies and implementing development programs focused on transportation, health, education, employment, industrialization, agriculture and fisheries, housing and urban development, water supply, electricity and telecommunications.\textsuperscript{293} The proposed Petroleum Industry Bill discussed above\textsuperscript{294} also creates a Petroleum Host Communities Fund to be filled by a requirement that upstream petroleum companies\textsuperscript{295} contribute ten percent of their net profits to the Fund on a monthly basis.\textsuperscript{296} The Fund will direct money to the development of the economic and social infrastructure of communities in petroleum producing areas.\textsuperscript{297}

The reforms described above, in addition to other reforms not mentioned, have helped the Nigerian economy grow an average of 7.6\% between 2003 and 2010.\textsuperscript{298} Unfortunately, the benefits have not reached the average Nigerian. According to the U.S. Agency for International Development, “while the successive administrations of Presidents Obasanjo and Yar’Adua have enacted broad . . . policy reforms, the implementation of these reforms has yet to register

\textsuperscript{292} Niger-Delta Development Commission (Establishment, etc.) Act, \textit{supra} note 291, § 14(2)(b).
\textsuperscript{293} \textit{Id.} § 7(b).
\textsuperscript{294} The Draft Petroleum Industry Bill, \textit{supra} note 233.
\textsuperscript{295} The upstream sector includes the searching for potential underground or underwater oil and gas fields, drilling of exploratory wells, and subsequently operating the wells that recover and bring the crude oil and/or raw natural gas to the surface. Conversely, the downstream sector is defined as an oil sector term commonly used to refer to the refining of crude oil, and the selling and distribution of natural gas and products derived from crude oil. \textit{Oil & Gas IQ, IQ Glossary}, \texttt{http://www.oilandgasiq.com/glossary}.
\textsuperscript{296} \textit{The Draft Petroleum Industry Bill, supra} note 233, §§ 116-119.
\textsuperscript{297} \textit{Id.} § 118.
significant impact on the daily lives of ordinary Nigerians.” The main reason for the failure of these reforms to reach ordinary Nigerians is the lack of strong governance institutions, especially at the state level, and a weak, non-oil economy. Decades of military rule and underinvestment in the non-oil sector will not be erased in one or two decades. If Nigeria continues along its current trajectory, however, it may finally be able to escape the resource curse.

III. APPLYING LESSONS FROM NIGERIA TO LAND INVESTMENT IN SOUTH SUDAN

Governments and investors can draw many lessons from the Nigerian experience in oil exploitation. Nigeria’s experience shows that large-scale natural resource exploitation comes with multiple risks to all stakeholders. Large-scale resource exploitation when state institutions are weak, corruption is rampant, and rights of populations are ill defined may lead to a situation where the benefits of the resource extraction do not reach the population, and investors face significant political risk. Nigeria’s reform efforts have also shown, however, that effective policies and legal frameworks may reduce risk. Governmental efforts at combating corruption, improving governance, creating an effective legal framework for investment, and cooperating with investors to reconcile the objectives of investors with the development needs of communities may lead to benefits to all stakeholders.

The remainder of this article will use the Nigerian example to provide eight recommendations for the GoSS and investors looking to enter the South Sudanese land market that will reduce political risk and help ensure the investment is beneficial to both investors and the people of South Sudan.

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300 WORLD BANK, supra note 298, at 2.
Lesson 1: The Government and investors must engage in meaningful consultations with communities prior to investment.

Government promotion of land investment in South Sudan is an appropriate response to the food security and developmental needs of the country. However, the pace of large-scale land investment should slow in order to ensure the provisions of the 2009 Land Act are effectively implemented. The Land Act provides a useful framework for allowing investment in a sustainable and consultative manner. According to the Act, the Ministry granting the lease must ensure that “the members of the community are duly consulted . . . and the project for which the land has been leased contributes to the social and economic development of the community, the County or/and the State.”\textsuperscript{301} The Act goes further and requires that customary land rights only be granted as a lease to international investors if there is “consensus between members of the community.”\textsuperscript{302}

Implementing these provisions will likely frustrate investors and government officials who want to speed up the pace of investment. However, given Sudan’s history with conflict and civil unrest caused by disputes over land rights, these measures are absolutely essential. Populations must not only be consulted; they must have the ability to refuse an investment contract. In Nigeria, the Land Use Act vested the authority to grant leases to the state governor without consultations with the community. This mode led to a situation where the oil companies believed the government was the only stakeholder and acted carelessly toward the local population. South Sudan has wisely adopted a different approach. The GoSS must rigorously implement these provisions of the Land Act because the investment provides benefits to both investors and the South Sudanese if power is given to local communities.

\textsuperscript{301} The Land Act of 2009, \textit{supra} note 83, § 27(4).
\textsuperscript{302} \textit{Id.} § 27(1).
Lesson 2: The Government must aggressively combat corruption.

Corruption creates distrust between the government, investors, and the public, and thus must be urgently addressed if South Sudan is going to have any chance of creating an enabling environment for mutually beneficial land investment. Nigeria continually struggled with corruption at levels that rival or exceed the levels of corruption in South Sudan. In response to endemic corruption, both countries established independent anti-corruption commissions that take decisions over whether to investigate and prosecute government officials outside the political process. South Sudan is now faced with similar issues to what Nigeria faced in 2002 when, prior to the amending of the Corrupt Practices Act, power to prosecute corruption was concurrently vested in an independent anti-corruption commission and the Ministry of Justice. Because there was a perceived competition between the Ministry and the independent commission, the Nigerian legislature decided to vest sole prosecutorial authority in the Attorney-General. South Sudan similarly has vested prosecutorial duties to both an independent anti-corruption commission and the Ministry of Justice. The GoSS need not decide to vest sole authority in one entity over the other. Concurrent authority has worked in other countries and has the potential to succeed in South Sudan. However, the GoSS must

303 See Ogbu, supra note 192, at 130-31.
304 See Turuk, supra note 115.
make a decision to either build up the prosecutorial powers and political will of the Commission or to grant sole authority to the Attorney General. Without the legal tools and strong political backing, no independent commission will succeed.  

Lesson 3: The Government must limit expropriation of customary land to truly public purposes.

Implementing the Land Act requires the government to ensure that any expropriation of private or community held lands is legitimate. Like the Land Use Act of Nigeria, the South Sudan Land Act allows the government to expropriate land for “public purposes.” Yet, unlike Nigeria’s law, where public purposes embrace “the requirement of the land for mining purposes or oil pipelines or for any purpose connected therein,” the South Sudan Land Act defines public purposes in a relatively narrow way. However, the South Sudan Land Act also includes a clause that states that a public purpose can include “any activity with a public purpose undertaken by the government as specified by any other law.” South Sudan’s government must ensure that it does not interpret this provision to include promotion of land investment notwithstanding the communities’ right to refuse an investment.

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306 Heilbrunn, supra note 305, at 15.
307 The Land Act of 2009, supra note 83, § 73.
308 Id. § 73(5) (Public Purposes is defined by the Act as: (a) exclusive for government or general public use; (b) planning of any new Government area or the extension or improvement of any existing Government premises; (c) sanitary improvements and urban development; (d) social housing, resettlement and reintegration; (e) control over land contiguous to any port, airstrip or airport; (f) control over land required for defense purposes; (g) control over land whose values enhanced by the construction of any railway, road, or public works about to be undertaken or provided by the Government; and (h) any other activity with a public purpose undertaken by the government as specified by any other law).
309 Id. § 73(5)(b).
Lesson 4: Investors must guard against indirect expropriation.

While the legal regime established by the South Sudanese Land and Investment Promotion Acts provides protection for investors against direct expropriation of its investment, investors still must face the risk of indirect expropriation.\textsuperscript{310} Government action, such as increased regulation or a drastic change in the legal or tax environment, which “would have the effect of depriving the owner, in whole or significant part, of the use of reasonably-to-be-expected economic benefit or property”\textsuperscript{311} remains a risk.\textsuperscript{312}

Investors in South Sudan can learn from the Nigerian experience. With great changes in society, like when Nigeria joined OPEC in 1971 or the end of military rule in 1999, come significant regulatory changes. These changes may have an adverse impact on particular investment ventures. Protections for investors found in the Nigerian Petroleum Act of 1969 were effectively ignored once Nigeria joined OPEC. Further, reforms of the oil industry outlined earlier in this paper could have great impacts on the ability of investors to enjoy the benefits of their assets. South Sudan, as a new state, will be crafting a large amount of legislation in the coming years and the stability of the government remains in question as peace negotiations between rival factions continue. Once an investment is made and infrastructure is developed, investors become vulnerable to changes in the local laws regulations and government policies.\textsuperscript{313} Investors must therefore find protection against “creeping” expropriation.\textsuperscript{314}

\textsuperscript{310} See Marina Azzimonti & Pierre-Daniel G. Sarte, Barriers to Foreign Direct Investment Under Political Instability, 93 ECONOMIC QUARTERLY 287, 289 (2007) (countries that have higher political instability are predicted to exhibit higher levels of indirect expropriation).

\textsuperscript{311} Metaclad, supra note 76, ¶ 103.

\textsuperscript{312} Azzimonti & Sarte, supra note 310, at 289.

\textsuperscript{313} See COTULA, supra note 86, at 40.

\textsuperscript{314} See RUBINS & KINSELLA, supra note 60, at 183 (creeping expropriation may occur where a series of State acts have a cumulative effect of depriving an asset of its value).
Investors in Nigeria and beyond use a variety of tactics to guard against indirect expropriations. Such tactics include Bilateral Investment Treaties (BITs), stabilization clauses in contracts, and political risk insurance. South Sudan has not entered into any BITs at the time of writing. Yet stabilization clauses in contracts may serve some of the same ends as BITs and could be included in land contracts. Stabilization clauses may prohibit the application of any new laws or regulations to an investment. 315 Other forms of stabilization clauses would apply new laws and regulations to the investment, but require the state to fully compensate the investor for any compliance costs. 316 While stabilization clauses are controversial, especially when a country is implementing non-discriminatory regulations aimed at promoting human rights or environmental protection, these clauses can provide predictability and protect investments from regulatory expropriation. 317

The purchase of political risk insurance is one of the simplest steps an investor can take to mitigate political risk. 318 Insurance is available through private insurance companies, state-sponsored investment agencies, such as the United States’ Overseas Private Investment Corporation (OPIC), and multilateral agencies, such as the World Bank’s Multilateral Investment Guaranty Agency (MIGA). Both OPIC and MIGA protect against indirect expropriation and political violence. 319 At the same time, the simple purchasing of insurance through a World Bank or U.S.-government-associated entity may reduce political risk because the GoSS has an interest in maintaining a productive relationship with both entities. 320

315 Telesetsky, supra note 81, at 18.
316 Id. at 19.
317 Id.
318 RUBINS & KINSELLA, supra note 60, at 69.
319 Id. at 70-109.
320 Id. at 113.
Lesson 5: The Government must not give up its police powers through contracts.

There is a thin line between the sovereign right of a state to regulate its economy and the act of indirect expropriation. The GoSS, however, must find a way to effectively regulate its economy while at the same time promote secure investments. According to Lorenzo Cotula, “these tensions between investment protection and sustainable development goals call for the development of innovative approaches that can reconcile the investors’ legitimate need to ensure stability of the investment climate with efforts to maximize the contribution of foreign investment to the pursuit of sustainable development goals.”

The Nigerian government failed at reconciling the goals of investment stability and sustainable development. The FGN erected a regulatory regime in the 1960s and 70s that promoted investment at the expense of oversight, transparency, and due process. Because the FGN gained a majority stake in the oil companies in the 1970s, the incentives for holding these companies accountable and ensuring fair competition were diminished. To its credit, the FGN is attempting to change the dynamics through passage of the Petroleum Industry Bill. Yet, the process has proven difficult, and it is not clear how easy it will be to make the petroleum industry more accountable and transparent when much of the industry is operating under long-


323 See generally Decision Regarding Communication 155/96, supra note 227, ¶ 55 (finding that the FGN did not monitor or regulate the operations of oil companies, and in so doing “paved a way” for destruction of the environment and human rights abuses).
term contracts. Nigeria has signed twenty-two bilateral investment treaties that insulate investments from major changes in regulatory approaches, and the political power of oil companies remains strong.

The GoSS must learn from Nigeria’s failures and implement a regulatory regime that protects community land rights and ensures the benefit of investment is shared by shareholders and communities alike. South Sudan must take particular care not to give up its power to regulate through contracts or BITs. Because South Sudan has yet to enter any BITs, it can start with a clean slate and ensure the public interest is not compromised by allowing investments to shield themselves from non-discriminatory regulations. South Sudan should require, as a prerequisite for entering any BITs, language that allows it to establish its own level of environmental protection and human rights standards. This approach has been implemented by the Belgium-Luxembourg and Ethiopia BIT and the USA-Rwanda

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325 See generally Nils Klawitter, Battling Big Oil: How Four Nigerian Villagers Took Shell to Court, DER SPIEGEL (Jan. 29, 2013), http://www.spiegel.de/international/business/nigerian-farmers-take-on-shell-in-a-dutch-court-a-880159.html (stating that individuals filing a lawsuit against Shell will be facing an armada of lawyers); Chika Amanze-Nwachuku, PIB - Oil Majors Lobby Senators, Govt Officials Over Fiscal Provisions, THIS DAY, Oct. 2, 2011, http://allafrica.com/stories/201210020070.html (“Multinational oil companies are said to have spent millions of dollars lobbying the National Assembly and top government officials to address their concerns over the fiscal provisions in the new Petroleum Industry Bill.”).
326 Such an approach could follow the Article 12 of the BIT between Mauritius and Comoros in 2001, which states: “Nothing in this Agreement shall be construed to prevent a Contracting Party from adopting any measure whatsoever to protect its essential security interests or in the interest of public health or the prevention of diseases affecting animals and plants.” Agreement Concerning the Reciprocal Promotion and Protection of Investments, Mauritius – Comoros, May 18, 2001, http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_2014.169.01.0001.01.ENG.
Likewise, South Sudan should limit the scope of stabilization clauses it signs with investors. Stabilization clauses may be appropriate in certain circumstances, but only if these clauses do not require the Government to abdicate its police powers. According to Anastasia Telesetsky:

We should expect States to demand more of their private investors. States with the ability to lease arable land have a high demand commodity and need not be cowed by sophisticated private investors who present a ‘take it or leave it’ offer... States should demand contract... conditions that will create an investment climate which not only protects investors’ expectations but also safeguards the public interest in a safe environment and meaningful employment.

Lesson 6: The Government must ensure agreements are transparent.

According to a study by the Economist, land deals in Africa are “shrouded in secrecy.” Transparency in land investment can help set the conditions for greater competition among investors. Transparency also fosters public confidence in land investment by foreigners because contract awards would be subject to public scrutiny. The Extractive Industry Transparency Initiative

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329 See Cotula, supra note 322, at 13-16.
330 Telesetsky, supra note 81, at 28.
implemented by Nigeria was ambitious.\textsuperscript{333} It informed the public and policymakers on the activities of oil companies and equipped civil society with a tool to hold their government accountable.\textsuperscript{334} South Sudan can learn from this experience and implement policies that provide information on pending contracts and existing allocations of land in a publicly assessable registry.\textsuperscript{335} Such a registry should include meaningful information such as: the price paid for the property, projections on use and cultivation targets, employment generated, and expected tax revenue. This information would enable civil society to take a more active role in land decisions. A land registry would also lower transaction costs borne by investors who currently must expend funds to investigate whether the claimed owner has good title.\textsuperscript{336}

Lesson 7: The Government and investors should negotiate contracts that prioritize local food security and development.

Because South Sudan suffers from food insecurity and underdevelopment, structuring land investment in a way that will contribute to, rather than undermine, food security and development is the utmost priority.\textsuperscript{337} Both investors and governments have a role to play in ensuring food security. A joint United Nations and World Bank report argues that while it is unrealistic to expect investors to make food security their primary concern, slight modifications of project design can have a major impact on the nutrition of local populations at little extra cost to investors.\textsuperscript{338}

\textsuperscript{333} Shaxson, supra note 208, at 2.
\textsuperscript{334} Id. at 7.
\textsuperscript{335} RAI, supra note 332, at 9.
\textsuperscript{336} See RAI, supra note 332, at 9. Such a registry would also prevent situations like that of Lainay County, where the investor acquired 600,000 acres in a County comprised of other a little more than half that amount. See supra Part II.B.2.
\textsuperscript{337} See generally WORLD FOOD PROGRAM, supra note 144 (showing the food security situation in South Sudan).
\textsuperscript{338} RAI, supra note 332, at 7.
The GoSS must address food insecurity in a variety of ways. The larger approach to food security is beyond the scope of this article. Yet, as it relates to land investment, there are at least three things the GoSS must do. First, South Sudan should consider implementing temporary export restrictions on food that limit the amount of food investors may export when food insecurity is acute.339 Second, the Government should negotiate contracts that require products to be grown that align with local dietary preferences.340 Finally, the GoSS must fully integrate investment plans within a larger development strategy.

South Sudan has wisely embedded foreign investment in land within its National Development Plan through the 2011 Draft Land Policy.341 Yet, equally important is to ensure that investment plans and contracts promote development initiatives. Large-scale agriculture based only on ad hoc decisions by often ill-informed investors might not correspond to a host community’s best interest in the long run.342 The GoSS must undertake legislative efforts and negotiate contracts that ensure land investments contribute to its national strategy for agriculture or rural development.343

Nigeria’s efforts to promote indigenous service and sourcing industries through the Oil and Gas Industry Content Development Act of 2010 is one way of linking investment projects to

339 South Sudan is not a member of WTO and has not adopted the General Agreement on Tariffs and Trade (GATT). However, such export restrictions are consistent with GATT article XI:2(a) (GATT’s prohibition on quantitative export restrictions does not apply to “export prohibitions or restrictions temporarily applied to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party”). See Julia Ismar, How to Govern the Global Rush for Land and Water, in HANDBOOK OF LAND AND WATER GRABS IN AFRICA: FOREIGN DIRECT INVESTMENT AND FOOD AND WATER SECURITY 286, 290 (Tony Allan et al. eds. 2013); see also Joachim von Braun & Ruth Meinzen-Dick, supra note 39.
340 RAI, supra note 332, at 6.
341 See SOUTH SUDAN NATIONAL DEVELOPMENT PLAN, supra note 120, at 72.
342 DEININGER, supra note 5, at 112.
343 Id.
development initiatives. South Sudan should consider passing appropriate legislation requiring large scale agricultural projects to hire local workers, train workers on mechanized farming techniques, and require local sourcing of seed, fuel, and other inputs. Additional legislation similar to Nigeria’s Niger-Delta Development Commission (Establishment, etc.) Act requiring investors to contribute to development funds is also something that South Sudan should consider.

Even if a land deal seems to be beneficial to the development of the country as a whole, there may be local social and economic impacts that must be addressed prior to a land transfer. The GoSS should thus require social and environmental impact assessments prior to the transfer of land. This requirement could be embedded in the lease contract or through passing a national law that requires an impact assessment to be carried out.

Lesson 8: Investors must practice Corporate Social Responsibility

Because community attitudes toward an investor could damage an investment or the investor’s reputation, practicing socially responsible behavior is not simply charity; socially responsible practices are necessary to minimize political and reputational risks. Because the community’s right to land has been undermined by colonialism, years of war with its northern neighbor, and tribal conflict, issues of land and food production are highly emotive for

See Awogbade, supra note 287; KPMG, supra note 289, at 1.
See Niger-Delta Development Commission (Establishment, etc.) Act, supra note 291, § 7(b).
COTULA, supra note 86, at 30.
See id.
See generally U.N. FOOD AND AGRIC. AGENCY, FROM LAND GRAB TO WIN-WIN: SEIZING THE OPPORTUNITIES OF INTERNATIONAL INVESTMENTS IN AGRICULTURE 2 (2009), ftp://ftp.fao.org/docrep/fao/011/ak357e/ak357e00.pdf (arguing that realizing the benefits of land investment will take efforts of both investors and recipients. “Above all, it requires an understanding that collaboration promises mutual benefits.”).
Id.
the South Sudanese. How a community interacts and feels about an investment in such an environment will have as much impact on the productivity of the investment as market forces. Further, non-profit campaigns focusing on the impact of land investment in the developing world are starting to have an impact and have the potential to severely damage an investor’s reputation. The Nigerian experience has shown these campaigns could lead to costly litigation and changes in the regulatory framework under which investors operate.

The experience of oil companies in Nigeria is particularly instructive in the area of social responsibility. It seems from Shell’s recent social responsibility practices that the company has learned that their investments operate within a set of social norms and community expectations. Shell seems to have learned that empowering the community and giving everyday Nigerians a voice in their own future is an essential part of their efforts to minimize political and reputational risk.

Land investors in South Sudan should not only attempt to follow the example of Shell, but to exceed it. Shell’s reputation has

350 See DENG & MITTAL, supra note 49, at 15.
352 See Frynas, supra note 129, at 371.
353 Spence, supra note 23, at 60-61.
354 See generally Ite, supra note 281, at 5-7 (“Shell has departed from the community assistance (CA) mode to the community development (CD) approach. The CD approach places emphasis on the empowerment of communities with a view to significantly reducing dependence on Shell for socio-economic development.”).
suffered from decades of neglecting the needs and desires of communities in their project areas. Land investors should strive from the outset of an investment to not only increase shareholder value but to generate tangible benefits for the communities in the project area. This would require at the least: (1) respecting internationally relevant human rights and labor standards;\(^{355}\) (2) subscribing to voluntary guidelines on land investment developed by international organizations\(^{356}\) and those endorsed by the African Union;\(^{357}\) (3) engaging with local communities to identify social risks, especially the risks to women and vulnerable groups, and implementing risk mitigation plans; (4) hiring local workers for higher skill work when possible; and (5) rigorously complying with government regulations and respecting existing land rights.

Finally, none of the socially responsible practices listed above will succeed if the project itself is not economically viable and fails to result in durable shareholder value.\(^{358}\) All parties will lose if an investment is not economically successful. Investors must be wary of investments that are only economically viable when food and energy prices are high and would fail under normal market conditions.\(^{359}\)

The increase in investment in African agricultural land has occurred at a blistering speed and the long-term economic viability of these projects is still unknown. Because the economic decisions taken by investors will have major repercussions for the livelihoods of people

\(^{355}\) Such standards are outlined in the U.N. Global Compact and the ILO’s Declaration of Fundamental Principles and Rights at Work.


\(^{358}\) Harold Liversage, INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT, Responding to ‘Land Grabbing’ and Promoting Responsible Investment in Agriculture 9 (IFAD Occasional Paper 2, 2010), http://www.ifad.org/pub/op/2_e.pdf.

\(^{359}\) See RAI, supra note 332, at 13.
in the project area, the stakes are particularly high. Investors must not enter into contracts lightly and without doing all they can to ensure the project is viable.

CONCLUSION

International investment in agriculture plays a vital role in development and poverty reduction. Yet, international investors operating in South Sudan face many risks: the lack of predictable regulation, an unproven government, corruption, civil unrest, and reputational risks. Land investment also brings many risks to communities: the erosion of land rights, uneven development, environmental degradation, and violent conflict spurred by unmet expectations. This article argues these risks are not insurmountable. The experience of international investment in the oil sector in Nigeria has shown that with effective government regulation and a combination of successful risk management and responsible practices by investors, there is hope that international investment would meet the expectations of investors, governments, and communities.

The task of transforming large-scale land investment from a challenge to an opportunity will not be easy. In order to meet the challenge, the Government of South Sudan should slow international investment to ensure the rights of landholders are secured, the challenge of corruption is addressed, and that land investment is integrated into its national development and food security strategies. Investors must likewise take efforts to secure their investment against the risk of indirect expropriation, engage in meaningful consultations with communities, ensure investments

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360 See supra Part I.B.
361 See supra Part I.C.
362 See supra text accompanying notes 169-87.
contribute to food security, and practice corporate responsible practices.

Since the end of military rule in 1999, investors and the Government of Nigeria transformed themselves from the poster child of the resource curse into something closer to being called a success story. Nigeria still has a long way to go. But the reforms undertaken by the FGN and investors since 1999 shows that a reform-minded government and investors willing to take the necessary steps to protect investments and all stakeholders can pave the way for mutually beneficial investment.
NOT IN MY BACKYARD: UNCONVENTIONAL GAS DEVELOPMENT AND LOCAL LAND USE IN PENNSYLVANIA AND ALBERTA, CANADA

Nathaniel L. Foote, Esq.*

The Commonwealth of Pennsylvania and the Province of Alberta, Canada, lie in different countries, with different legal systems and norms; but both areas have recently experienced prolific oil and gas development. Pennsylvania’s and Alberta’s recent experiences with exploding oil and gas development have much in common.1 Both have deep ties to the oil and gas industry, and each has beheld massive growth in drilling activity in recent years.2 The industry’s resurgence has produced a windfall, and communities in Pennsylvania’s and Alberta’s energy-rich regions are prospering.3

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2 See generally Pifer, supra note 1, at 622; About the Industry, supra note 1.

With the good, however, comes the bad. New wells and more people have caused friction between landowners; state, provincial, and local governments; and the oil and gas industry. Pennsylvania’s and Alberta’s legislators and regulators are left playing catch-up. After years of steady or slow development, each was caught off guard by such rapid growth.

Forced to cope with increased oil and gas development, citizens in Pennsylvania and Alberta looked to their local governments to rein in drilling. As a result, government representatives in both places became more active in the regulatory process. In Pennsylvania, many localities used their authority over local land use to check otherwise unfettered resource extraction.

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4 See, e.g., Pifer, supra note 1, at 625; see Kate Schneider, Urban Drilling Policy Announced, CALGARY SUN, June 24, 2012, 9:14 PM, http://www.calgarysun.com/2012/06/24/urban-drilling-policy-announced (discussing residents’ worries about property values, air and water quality, traffic, and lack of an evacuation plan).

5 See generally Pifer, supra note 4; see also Schneider, supra note 4.


7 See, e.g., Schneider, supra note 4; Rascoe, supra note 6.

8 Compare Ross H. Pifer, Drake Meets Marcellus: A Review of Pennsylvania Case Law Upon the Sesquicentennial of the United States Oil and Gas Industry, 6 TEX. J. OIL GAS & ENERGY L. 47, 59 (2010-2011) (“[C]itizens often look to their municipalities as the primary regulator to remedy any real or perceived problems.”), with Nickie Vlavianos & Chidinma Thompson, Alberta’s Approach to Local Governance in Oil and Gas Development, 48 ALBERTA L. REV. 55, 63 (2010) (“[M]unicipalities are also increasingly being asked to respond to their constituents’ concerns about the environmental and public health risks of oil and gas development.”).

9 See Pifer, supra note 8, at 59; Vlavianos & Thompson, supra note 8, at 63.

Alberta’s municipal governments enjoy comparatively less authority, but have also opposed—and even managed to halt—unpopular oil and gas projects in some communities.12

Yet Pennsylvania’s and Alberta’s treatments of local land use in this context differ considerably. On a basic level, Alberta’s municipalities are statutory creations,13 while Pennsylvania’s localities owe their existence to the state constitution.14 Fundamental cultural differences also exist between Alberta and Pennsylvania regarding the role of local authority. Pennsylvania has “a long and rich tradition of local governance,”15 Alberta, on the other hand, “scarcely mention[s] municipalities” as part of the Province’s regulatory framework.16

As a result, oil and gas companies operating in Pennsylvania must navigate thousands of local zoning rules. Such a “[l]ack of [regulatory] uniformity has long been an Achilles’ heel” for the

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13 Vlavianos & Thompson, supra note 8, at 56 n.1.

14 See, PA. CONST. art. IX, § 2 (gives municipalities the right to adopt charters, but the constitution does not explicitly establish the municipality).


16 Vlavianos & Thompson, supra note 8, at 56.
energy industry. In fact, the state has twice tried to legislate away local zoning in the oil and gas context. The Oil and Gas Act of 1984 and Act 13 of 2012 each sought to preempt local land use ordinances affecting oil and gas development. Both laws, however, fell prey to municipal challenges in state courts.

Alberta, on the other hand, has largely avoided the “not in my backyard” (NIMBY) approach to oil and gas development, and “emphasiz[ed] the well-being of many, rather than the interests of a few.” Though not immune to local political pressure, Alberta’s energy industry enjoys manageable land use rules compared to operators in Pennsylvania.

Alberta’s approach to local land use should instruct Pennsylvania’s. As much as the oil and gas industry would like to do away with local roadblocks to drilling, Pennsylvania’s localities cannot, and will not, be browbeaten by the state legislature. “Individual citizens have more incentive to be involved” at the municipal level, and local control over land use decisions is deeply ensconced in Pennsylvania law and custom. Put simply, people care

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20 Vlavianos & Thompson, supra note 8, at 56.


a lot about their neighborhoods. That is not to say, of course, that Albertans do not feel strongly about their local communities, but Alberta’s land use framework strikes a more delicate and nuanced balance between local and provincial interests, and allows for a more collaborative approach to land use decisions.

This article recounts the recent history of oil and gas development in Pennsylvania and Alberta and explains the two jurisdictions’ divergent approaches to land use regulation in the context of resource extraction. It will also describe the effects each jurisdiction’s approach has had on oil and gas development, and how Pennsylvania’s and Alberta’s local governments have respectively adapted to increased drilling activity. Finally, it will suggest that Alberta’s cooperative land use framework could be applied in Pennsylvania, which would help mitigate the touchy relationship between the state and local governments.

I. Pennsylvania’s Oil and Gas Comeback

The modern oil and gas industry was born near Titusville, Pennsylvania, when Edwin Drake struck oil there in 1859. Derided

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24 See, e.g., South Saskatchewan Regional Advisory Council, ALBERTA.CA, Nov. 29, 2012, https://landuse.alberta.ca/RegionalPlans/SouthSaskatchewanRegion/SSRPRAC/Pages/default.aspx (describing the South Saskatchewan Regional Advisory Council and the communities’ involved in the planning process).

by critics as “Drake’s Folly,” the endeavor provided the world’s first commercially successful oil well. The discovery ushered in a period of rapid mineral development, and by 1901 Pennsylvania produced half the world’s oil.

Petroleum did not prove to be Pennsylvania’s only bountiful mineral resource. Natural gas was discovered in Murrysville, Pennsylvania in 1878. Soon, Pennsylvania was the center of U.S. gas production, and remained so until the turn of the twentieth century. The state experienced a decline in its share of national production in subsequent decades, but a century later Pennsylvania reclaimed its place at the forefront of the gas industry thanks to Marcellus Shale and coalbed methane gas.

The Marcellus Shale formation stretches 95,000 square miles, from upstate New York, through Pennsylvania, and into parts of Ohio, West Virginia, Maryland, and Virginia. The Marcellus region is particularly attractive to energy companies for several reasons. First, the formation is four times larger than the combined size of the other well-known shale gas formations in the western United States. Second, Marcellus Shale has proved more productive than

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27 Ginsberg, supra note 25.
ervice=42 (last visited Oct. 25, 2012).
29 Pifer, supra note 1, at 618-19.
30 Id.
31 Id.
34 Pifer, supra note 1, at 623.
35 Id.
comparable shale formations by a large margin.\textsuperscript{36} Finally, the Marcellus Region is closer to cold weather population centers in the northeastern United States than other shale gas formations, and thus enjoys lower transportation costs.\textsuperscript{37}

Until recently, however, Marcellus Shale gas was considered commercially unviable, although the requisite extraction technology has existed for more than seventy-five years.\textsuperscript{38} That was proved wrong in 2003 when Range Resources drilled the first successful well into the Marcellus formation in Washington County, south of Pittsburgh.\textsuperscript{39} Pennsylvania quickly witnessed a dramatic increase in the number of shale gas wells drilled, both in western Pennsylvania and in previously unexploited areas in the northern tier of the state.\textsuperscript{40} In fact, in the nine years since Range Resource’s first well, nearly 12,000 well permits have been issued in Pennsylvania.\textsuperscript{41}

Coalbed methane extraction has also exploded in Pennsylvania over the last several years.\textsuperscript{42} Greater demand and higher gas prices have made previously unexploited coalbed gas profitable.\textsuperscript{43} Progress has also been made in techniques to extract coalbed gas on a commercial scale, paving the way for increased production.\textsuperscript{44} Today, for example, producers have the technology to

\begin{footnotesize}
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\item \textsuperscript{36} Id.
\item \textsuperscript{37} Id.
\item \textsuperscript{38} Id.
\item \textsuperscript{39} Pifer, supra note 1, at 623.
\item \textsuperscript{40} Id.
\item \textsuperscript{43} Id. at 35-36.
\end{itemize}
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drill into coal seams both horizontally and vertically,\textsuperscript{45} making the techniques for “fracking”\textsuperscript{46} modern shale gas wells and coalbed wells substantially similar.\textsuperscript{47}

Currently, there are over seventy oil and gas companies working in Pennsylvania, including many recognizable multinational corporations.\textsuperscript{48}

II. OIL AND GAS DEVELOPMENT AND THE CORRESPONDING POPULATION BOOM IN ALBERTA

Like Pennsylvania, Canada has a long history of oil and gas development.\textsuperscript{49} Natural gas was first discovered in Ontario in the 1880s,\textsuperscript{50} and has been extracted from Alberta for generations.\textsuperscript{51} Alberta currently accounts for almost eighty percent of the natural

\textsuperscript{47} Laura C. Reeder, Creating a Legal Framework for Regulation of Natural Gas Extraction from the Marcellus Shale Formation, 34 WM. & MARY ENVTL. L. & POL’Y REV. 999, 1011 (2010).
\textsuperscript{48} Pifer, supra note 1, at 622-624.
\textsuperscript{50} Id. at 5.
\textsuperscript{51} THE APPLIED HISTORY RESEARCH GROUP, The Oil and Gas Frontier: 1913-Present, UNIV. OF CALGARY (1997), http://www.ucalgary.ca/applied_history/tutor/calgary/oil.html. (Gas was discovered in the early 1910s in Turner Valley, southwest of Calgary. In the early 1930s oil was discovered beneath the Valley’s gas wells).
gas produced in Canada. The province is also home to the third largest crude oil reserves in the world.

Like Pennsylvania, mineral development in Alberta has expanded rapidly in recent years. Revenues from Alberta’s entire oil and gas sector increased by almost fifty percent from 2009 to 2010, and the size of the province’s energy industry more than doubled between 2000 and 2010. Although exploration is ongoing, the province appears to contain large unconventional shale gas and coalbed methane reserves. The provincial government anticipates shale and coalbed development will add substantially to Alberta’s resource reserves in the future. In just the last ten years, for instance, the number of coalbed wells in Alberta increased from 20 to over 18,000.

At the same time, the Calgary-Edmonton Corridor, Alberta’s most populated region, grew more than fifty percent from 1.7 to 2.7 million people. This trend is not expected to slow down. Boasting low unemployment and high wages, “Calgary and Edmonton are Canada’s fastest-growing cities.” The provincial government expects Alberta will draw another million people in the

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52 About the Industry, supra note 1.
53 Id.
55 About the Industry, supra note 1.
56 Id.
57 Natural Gas and Coalbed Methane, supra note 54.
58 Id.
60 Population and NIMBYism in Alberta Emerge as Potential Challenges for the Oil and Gas Industry, supra note 12, at 1.
61 See generally Grant, supra note 3.
62 Id.
next ten years. The province has accommodated this growth through construction of “sprawling residential projects . . . as well as large-scale commercial and industrial projects surrounding Calgary and Edmonton.” The cities’ growth has happened “mainly around the edges, suggesting that urban sprawl has become the norm in the growth of Canadian cities.” As a result, new oil and gas wells, and suburban residential development, are converging for the first time.

III. LOCAL LAND USE AND MINERAL DEVELOPMENT IN PENNSYLVANIA

The drilling upsurge in Pennsylvania has had a significant effect on communities in the Marcellus Region. The reinvigorated energy industry has stimulated economic activity in affected communities. Landowners have received windfalls from mineral leases, and new jobs have been generated. The real estate market has also been strengthened thanks to an increased demand for housing and commercial space. On the other hand, affected communities have experienced “light, noise, dust, fumes, traffic, and drastic changes to the land.” For some, this has meant a “decline in the overall quality of life as a result of continuous industrial operations.”

63 See, e.g., Vanderklippe, supra note 23.
64 Population and NIMBYism in Alberta Emerge as Potential Challenges for the Oil and Gas Industry, supra note 12, at 2.
66 E.g., Schneider, supra note 4.
67 See generally Pifer, supra note 1, at 625.
68 Id.
69 Id.
70 Id.
71 Smith, supra note 33, at 9.
72 Pifer, supra note 1, at 625.
In an effort to protect their citizens from the unseemly side of mineral development, municipal officials throughout Pennsylvania have sought to restrict development through zoning for years.\textsuperscript{73} Local government “has a strong heritage in Pennsylvania”\textsuperscript{74} and its citizens often turn to local officials to address daily problems.\textsuperscript{75} With 2,632 governmental entities\textsuperscript{76} that possess zoning authority,\textsuperscript{77} oil and gas companies face obvious problems trying to navigate a complex and Balkanized legal framework.\textsuperscript{78} Some in the energy industry have even complained that Pennsylvania’s municipalities use zoning as a back door way to ban drilling altogether.\textsuperscript{79}

Pennsylvania’s unwieldy regulatory mix generated a legislative response in 1984 with the passage of the Oil and Gas Act.\textsuperscript{80} The Act was intended to promote the development of the state’s oil and gas resources,\textsuperscript{81} and, to that end, Section 602 of the Act preempted local

\begin{footnotes}
\item[73] See Smith, supra note 33, at 30 (“Restricting drilling activities by zoning districts seemingly employs a zoning method enjoyed by municipal officials for years.”).
\item[74] Pifer, supra note 8, at 59.
\item[75] Id.
\item[76] PA. GEN. ASSEMBLY LOCAL GOV’T COMM’N, LOCAL GOV’T ENTITIES IN PA. 11, 11 n. 1 (3d ed. 2006), http://webcache.googleusercontent.com/search?q=cache:MQA2qBthjQcJ:www.lgc.state.pa.us/deskbook06/Basics01_Local_Government_Entities.pdf+&cd=1&hl=en&ct=clnk&gl=us&client=safari (in January 2003, there were 67 counties, 56 cities, 961 boroughs, one incorporated town, 1,548 townships (91 first class and 1,457 second class), 501 school districts and 2,015 authorities).
\item[77] Pennsylvania Municipalities Planning Code, 53 P.S. 10601-10602 (the MPC grants zoning powers to municipalities and limited zoning power to counties).
\item[78] Cf. Press Release, supra note 17.
\item[81] Id.
\end{footnotes}
ordinances that imposed conditions, requirements, or limitations on those aspects of oil and gas operations regulated by the Act.\textsuperscript{82}

To the chagrin of Pennsylvania’s legislature, however, the state’s Supreme Court reached conflicting decisions in two cases interpreting Section 602. The first, \textit{Range Resources v. Salem Township},\textsuperscript{83} illustrated a typical clash between state and local regulation.\textsuperscript{84} In that case, Range Resources challenged a local ordinance that regulated certain surface development associated with oil and gas drilling operations.\textsuperscript{84} The Supreme Court held the Township’s ordinance was preempted because it “overlap[ped] substantially with the goals as set forth in the Oil and Gas Act.”\textsuperscript{85}

In \textit{Huntley v. Borough of Oakmont}, on the other hand, the Court held that the Oil and Gas Act did not preempt a local zoning ordinance that governed well location, and not the “technical aspects of well functioning.”\textsuperscript{86} The Court found the ordinance did not overlap with the Act’s stated purpose of protecting health, safety, the environment, and property.\textsuperscript{87} Oakmont had instead sought to “preserv[e] the character of residential neighborhoods and encourag[e] beneficial and compatible land uses.”\textsuperscript{88}

By declining to extend 1984 Oil and Gas Act preemption to ordinances affecting well location, the \textit{Huntley} Court “opened the door for some regulation of natural gas activities through municipal zoning powers.”\textsuperscript{89} The decision consequently frustrated the oil and gas industry’s quest for uniform statewide land use rules, since the

\textsuperscript{82} Id.
\textsuperscript{83} Reeder, supra note 47, at 1000.
\textsuperscript{85} Id.
\textsuperscript{87} Id.
\textsuperscript{88} Id. at 224.
\textsuperscript{89} Pifer, supra note 8, at 62 (2011).
ability to select well location is seen as a critical requirement for resource extraction.

Pennsylvania’s legislature did not rest on its laurels. Three years after the Huntley decision, in February 2012, the state repealed and replaced much of the Oil and Gas Act of 1984 with Act 13 of 2012.

Act 13 made four significant changes to the 1984 law: (1) it allowed for new fees to be assessed on unconventional wells; (2) it created a formula for distribution of those fees; (3) it made changes to environmental requirements; and, most germane here, (4) Chapter 33 of the Act required local governments to allow oil and gas development in all zoning districts, drastically curtailing the authority of municipalities to prevent drilling through zoning. The Act also created an “expedited review process” that empowered Pennsylvania’s Public Utility Commission (PUC) to render quick decisions regarding local ordinances’ compliance with the law.

Act 13 thus addressed the local ordinance provision of the 1984 Oil and Gas Act that had provoked significant zoning litigation, including the Range and Huntley decisions. The Act attempted to close the loophole left open by the Huntley court’s decision by stripping localities of the power to regulate well siting by zoning district.

Act 13 was the result of negotiations between legislators, industry players, and environmentalists. Yet despite support from

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91 Id.
94 See Chiaruttini, supra note 18.
95 PA’s New Oil and Gas Law, supra note 93.
the oil and gas industry, citizen groups, and Pennsylvania’s local government associations, the Act remained controversial. In particular, the law angered seven communities affected by drilling in Marcellus shale. Two months after the Act’s passage, those localities brought suit in the Commonwealth Court seeking to enjoin the law’s enforcement and challenging its constitutionality.

The localities won the day. In July 2012, the Commonwealth Court found Chapter 33 of the Act, the part governing local zoning, unconstitutional. The Court said the Act’s restrictions on municipal ordinances violated landowners’ substantive due process rights guaranteed by the Pennsylvania and United States constitutions. Act 13’s local zoning restrictions, the Court explained, failed to “protect the interests of neighboring property owners from harm, alter[ed] the character of neighborhoods, and ma[de] irrational classifications.”

The day after the ruling, Governor Thomas Corbett’s administration filed an appeal with the state Supreme Court. Arguments were heard in October 2012.

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99 Robinson Twp., 52 A.3d 463.
100 Id.
101 Id. at 494.
102 Id. at 484-85.
103 Id. at 484.
104 Detrow, supra note 98.
105 Begos, supra note 79.
After the Commonwealth Court rendered its decision, the PUC suspended its accelerated review process for local ordinances pending decision on the lawsuit by the Supreme Court.\textsuperscript{106} In September 2012, however, the Commission recommenced its evaluations.\textsuperscript{107} It focused on ordinances it believed violated Act 13’s still constitutional provisions and the Municipalities Planning Code.\textsuperscript{108} In response, the Commonwealth Court issued a “terse” order that the PUC stop acting on requests for review of local ordinances pending a final resolution of the case.\textsuperscript{109} The order relegated local land use ordinance challenges to the “cumbersome land use appeal process established in the Pennsylvania Municipalities Planning Code.”\textsuperscript{110} Rather than review by the PUC, the process requires a decision at the local level by either a zoning board or a municipality’s governing body.\textsuperscript{111} Appeals are then heard by county courts and ultimately by the Commonwealth Court—the “process can easily take a year or more.”\textsuperscript{112}

Before issuance of the order, however, the PUC made two decisions with broad implications. First, the PUC found that Pittsburgh’s drilling ban—which earned the city council a standing ovation in 2010\textsuperscript{113}—conflicted with state environmental law.\textsuperscript{114} Second, the Commission declared a North Towanda Township

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\textsuperscript{107}\textsuperscript{107} BUCHANAN INGERSOLL & ROONEY PC, supra note 93.
\textsuperscript{108} Id.
\textsuperscript{109} Id.
\textsuperscript{110} Id.
\textsuperscript{111} Id.
\textsuperscript{112} Id.
\textsuperscript{113}\textsuperscript{113} BUCHANAN INGERSOLL & ROONEY PC, supra note 93.
\end{flushleft}
ordinance that governed well setback standards and water impoundment areas to be overly restrictive on oil and gas operations, and therefore in violation of state law. The Commission was also studying ordinances from ten other municipalities, but the court order prevented the PUC from rendering final decisions on those ordinances.

The Commonwealth Court’s ruling frustrated the oil and gas industry. Unconventional shale gas wells come with “high initial costs,” which puts “an additional premium on predictability.” The imbroglio regarding Act 13 and PUC ordinance review jeopardized the industry’s search for certainty.

After waiting more than a year, the oil and gas industry was dealt another serious blow when the Supreme Court decided the fate of Act 13’s local zoning provisions in December 2013. In its decision, the Court determined Act 13 violated the Environmental Rights Amendment of the Pennsylvania constitution that guarantees citizens’ “right to “clean air, pure water, and to the preservation of

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118 Id.

119 See id.
the natural, scenic, historic and esthetic values of the environment.”

IV. LOCAL LAND USE AND RESOURCE EXTRACTION IN ALBERTA

The oil and gas industry enjoys a comparatively simpler set of local zoning rules in Alberta than in Pennsylvania. In fact, “little legal attention is typically paid to local governments or municipalities in Canada.”121 This is particularly true with regards to oil and gas development.122 The province’s top down approach promotes consistency, and has largely prevented the creation of a regulatory patchwork.123 Alberta’s local governments are conciliatory toward oil and gas interests, as they recognize “the importance of recovering [a] valuable nonrenewable Provincial resource and to . . . [avoid] compromis[ing] [its] extraction.”124

This is increasingly in doubt, however.125 Mineral development and the population grew precipitously in Alberta over

121 Vlavianos & Thompson, supra note 8, at 56.
122 Id. at 91. (“There are no legal requirements to consult with, or even notify, municipalities when such decisions are made, thereby reducing the ability of local governments to influence decision-making and to plan and prepare for the impacts from ensuing development.”).
123 Id. at 56.
124 Id. at 57 n.6 (referring to the City of Calgary’s position regarding provincial mineral development).
the last decade.\textsuperscript{126} The changes beget conflict. Dramatic growth caused issues among “competing land users, including industrial, agricultural, residential, and recreational users; Aboriginal communities; and environmental groups.”\textsuperscript{127} Alberta’s municipalities are thus “increasingly being asked to respond to their constituents’ concerns about the environmental and public health risks of oil and gas development.”\textsuperscript{128} In the last several years, several of Alberta’s local governments have resisted conciliation, and taken a more active role in oil and gas development.\textsuperscript{129}

Alberta’s localities do maintain primary jurisdiction over some land uses.\textsuperscript{130} Municipal governments are authorized to enact land use bylaws that divide the municipality into zoning districts and govern what uses are permitted within those areas.\textsuperscript{131} Many projects require a development permit or subdivision approval from a locality before land can be developed or subdivided.\textsuperscript{132} Alberta’s Municipal Government Act,\textsuperscript{133} however, specifically exempts oil and gas untapped conventional deposits, enhanced recovery, unconventional deposits like oil sands and coal bed methane, and increased value-added processing.”).

\textsuperscript{126} See Vlavianos & Thompson, supra note 8, at 63 (“[R]esidential expansion of cities, towns or acreage subdivisions is occurring on the land above existing oil and gas fields, coal and gravel deposits, or other subsurface resources. In other places, previously undetected oil and gas fields are being identified beneath existing urban and residential sites or new energy projects are being developed within expected growth areas. Accessing these resources increases the potential for conflict between industry, landowners and the public.”).


\textsuperscript{128} Vlavianos & Thompson, supra note 8, at 63.


\textsuperscript{130} Vlavianos & Thompson, supra note 8, at 61.

\textsuperscript{131} Id.

\textsuperscript{132} Id.

\textsuperscript{133} Municipal Government Act, R.S.A. 2000, c. M-26 (Can.).
operations from municipal land use planning and regulation.\textsuperscript{134} The decision to exempt oil and gas operations from local bylaws was the province’s affirmation that “as the lifeblood of Alberta’s economy,” mineral development “should not be subjected to local control that might vary from place to place.”\textsuperscript{135} Indeed, Alberta’s Cabinet has the power to supersede local land use by enacting laws governing municipal matters in all areas of development.\textsuperscript{136}

Alberta’s Energy Resources Conservation Board (ERCB) handles oil and gas project permitting, as well as the overall management of energy resources in the province.\textsuperscript{137} Again, the ERCB is not required to consult with municipalities in approving energy projects.\textsuperscript{138} The Board does, however, require companies to consult with those affected during the permit application process, including local governments.\textsuperscript{139} If unhappy, a municipality may attempt to challenge a permit before the ERCB. But only those whose rights may be “directly and adversely affected by a proposed project will be granted standing before the Board” to challenge a permit application.\textsuperscript{140} “[O]ne would think that municipalities should almost always be able to meet the Board’s test for standing,” but the ERCB has denied local governments standing on several occasions.\textsuperscript{141}

Despite their relative ineffectuality, Alberta municipalities have quashed several unpopular oil and gas projects. In 2006, for example, the ERCB’s predecessor\textsuperscript{142} refused to issue licenses for six

\textsuperscript{134} Vlavianos & Thompson, \textit{supra} note 8, at 79.
\textsuperscript{135} \textit{Id.}
\textsuperscript{136} \textit{Id.} at 66.
\textsuperscript{138} Vlavianos & Thompson, \textit{supra} note 8, at 65, 69.
\textsuperscript{139} \textit{Id.} at 72.
\textsuperscript{140} \textit{Id.} (internal citations omitted).
\textsuperscript{141} See \textit{id.} at 73.
\textsuperscript{142} \textit{Energy Resources Conservation Board (ERCB), ALBERTACANADA.CA}, June 12, 2012 1:26 PM, \texttt{http://www.albertacanada.com/business/invest/energy-resources-and-conservation-board.aspx} (“On January 1, 2008, the Alberta Energy and Utilities Board was divided to create two agencies. The Energy Resources and Conservation Board and the Alberta Utilities Commission focus on two distinct, expanding and complex segments of Alberta’s economy.”).
dangerous “sour gas” wells along Calgary’s southeastern edge. The decision hinged on the inadequacy of Compton Petroleum’s emergency plans, which were necessary to protect the public from a release of poisonous gas. In the context of such a complex, dangerous project, the Board instructed that municipalities—Calgary in this instance—be allowed to evaluate the safety protocols and provide recommendations prior to project approval. Instead, the gas company had remained unresponsive and acted unilaterally. Calgary did not intend its reservations to be an “obstacle to business development,” but the municipality refused to “roll over when it [came] to public safety.” At the time, the ERCB’s refusal to grant Compton the licenses was harkened as a “benchmark” for future permitting applications.

Local governments across the province have since presented opposition to oil and gas development within their boundaries. For example, Lethbridge, in Southern Alberta, adopted a policy

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145 Id. at 1-2.

146 Id. at 3.


149 Id.

150 Vlavianos & Thompson, supra note 8, at 57.
resolution in 2012 that fully opposed any drilling within city limits.\textsuperscript{151} Although the city council acknowledged the region “had fairly limited exposure to oil and gas well drilling activity,” Lethbridge feared a repeat of cases where the provincial government awarded drilling rights within urban boundaries.\textsuperscript{152} The city council intended the measure to get “the attention of the provincial Energy Resources Conservation Board.”\textsuperscript{153}

In another case, reminiscent of Compton Petroleum’s defunct sour gas wells, Kaiser Exploration ran into political roadblocks in Calgary that halted development of an oil well within the city.\textsuperscript{154} The planned well was expected to be over 500 meters from the nearest house or body of water, far more than the 100 meters provincial rules required,\textsuperscript{155} and Kaiser obtained the necessary permits from the ERDC without trouble.\textsuperscript{156} Before drilling, however, “not-in-my-backyard” community opposition\textsuperscript{157} prompted the City of Calgary and a local provincial representative to intervene.\textsuperscript{158} The provincial Energy Minister was also called.\textsuperscript{159} The Minister launched a review of the province’s urban drilling policy\textsuperscript{160} and requested the ERCB delay approval of Kaiser’s plans until the evaluation is complete.\textsuperscript{161} In developing the new policy, Alberta plans to consider

\begin{itemize}
\item \textsuperscript{151} Mabell, supra note 11.
\item \textsuperscript{152} Id
\item \textsuperscript{153} City of Lethbridge: Council Adopts Position Opposing Oil & Gas Drilling Within Urban Boundaries, 4-TRADERS.COM, Nov. 13, 2012 6:45 PM, \url{http://www.4-traders.com/news/City-of-Lethbridge-Council-Adopts-Position-Opposing-Oil-Gas-Drilling-Within-Urban-Boundaries%E2%80%9415507503/}.
\item \textsuperscript{154} Population Growth, Urbanization, and NIMBYism in Alberta Emerge as Potential Challenges for the Oil and Gas Industry, supra note 12, at 1.
\item \textsuperscript{155} Vanderklippe, supra note 23.
\item \textsuperscript{156} Population Growth, Urbanization, and NIMBYism in Alberta Emerge as Potential Challenges for the Oil and Gas Industry, supra note 12, at 1.
\item \textsuperscript{157} Vanderklippe, supra note 23.
\item \textsuperscript{158} Population Growth, Urbanization, and NIMBYism in Alberta Emerge as Potential Challenges for the Oil and Gas Industry, supra note 12, at 1.
\item \textsuperscript{159} Id.
\item \textsuperscript{160} Id.
\item \textsuperscript{161} Schneider, supra note 4.
\end{itemize}
issues such as well proximity to houses and what emergency response plans will be required of companies operating in urban areas.162

To address Alberta’s increasing land-use conflicts and codify the provincial land policy, the province enacted the Alberta Land Stewardship Act (ALSA) in 2009.163 The Act represented the statutory embodiment of the province’s overarching land use strategy, and was designed to manage public and private lands and natural resources in the province.164 The provincial government, with public comment, set Alberta’s energy policy and established planning regions for the province.165 To affect its goals, the provincial Cabinet was empowered to establish regional plans that are legally binding on local governments.166 Municipalities are required to make future development and land use decisions in accordance with those plans,167 and must “amend planning documents to adopt regional planning directions.”168

Although the ALSA contained no requirement for local government representation in regional planning,169 Alberta’s provincial government intends to include municipal governments in the process, along with industry, nongovernmental, aboriginal groups, and “other relevant planning bodies.”170

As a practical matter, municipalities have played a significant role in the development of Alberta’s regional plans.171 So far,

162 Vanderklippe, supra note 23.
164 Harvie & Mercier, supra note 127, at 296.
165 Vlavianos & Thompson, supra note 8, at 58, 78.
166 Id. at 66.
167 Id.
169 Vlavianos & Thompson, supra note 8, at 67.
170 Alberta Land-Use Framework, supra note 168.
municipal authorities, including local mayors and members of town councils, provided input and served on the regional planning council.172

V. ALBERTA’S EXPERIENCE IS INSTRUCTIVE FOR PENNSYLVANIA

Pennsylvania and Alberta’s experiences with municipal objections to oil and gas development show that localities will not be forced into compliance with state or provincial goals. This is unsurprising given Pennsylvanians’ penchant for strong local government. Albertans’ reluctance is uncharacteristic for the region, and therefore dramatically illustrates the inescapability of state and local political conflicts, even where municipal governments exercise comparatively little power.

In Pennsylvania, the disagreement will not subside under the state’s current regulatory framework, especially since Act 13’s key provision was invalidated by the state’s Supreme Court.173 Unless drilling activity decreases, there is no reason to think local governments will face fewer complaints from citizens in affected communities. State regulators and legislators will also face pressure from the oil and gas industry.174 Act 13 represented a failed attempt at reconciling the interests of Pennsylvania’s various stakeholders.175

172 See Lower Athabasca Regional Advisory Council, ALBERTA.CA, https://www.landuse.alberta.ca/LandUse%20Documents/Lower%20Athabasca%20Regional%20Advisory%20Council%20Members%20-%202009-06.pdf (last visited Nov. 29, 2012); see also South Saskatchewan Regional Advisory Council Members, supra note 24.


174 See id.

175 See Detrow, supra note 97 (“[T]he provisions casually set aside by the court were the result of months of compromise and negotiation, with significant input and support from Pennsylvania’s local government associations.”).
Rather than end the consistently prickly debate regarding municipal regulation of oil and gas drilling, the Act resulted in new litigation. That the County Commissioners Association of Pennsylvania and the State Association of Township Supervisors supported Act 13 did not influence the seven municipalities who challenged the law. The municipalities’ success also emboldened other discontented localities and environmental groups, several of which filed amicus briefs with the Supreme Court opposing the Act.

Pennsylvania’s local communities argued that Act 13’s one-size-fits-all approach to oil and gas regulation ignores individual localities’ unique physical and political characteristics. Statewide rules may “expedite unconventional gas drilling” and “encourage investment by giving companies regulatory and financial certainty,” but Act 13 ignored fundamental differences between urban, suburban, and rural communities. Even oil and gas companies have recognized that drilling in large cities, for example, is impracticable. According to one industry spokesman, “density and distance from any pipeline make drilling in Pittsburgh . . . a bad idea.”

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176 Id.
177 See Robinson Twp., 52 A.3d 463.
182 Id.
In Pennsylvania, rural Bradford County’s experience unmistakably illustrates the rural-urban divide. More wells have been drilled in Bradford than anywhere else in Pennsylvania. Thanks to Act 13 the county collected more than $8 million in impact fees in 2012, and was able to reduce property taxes as a result. Bradford’s struggling farmers have also been bolstered by lease payments from energy companies. At the same time, though, locals struggled with increased traffic, polluted water wells, acid spills, and a gas well blowout. Pittsburghers have experienced no such consequences of gas development.

Rural and urban Pennsylvania’s differences are not only physical. Even before the Act 13 litigation began, two suburban Philadelphia counties managed to exempt themselves from the Act’s one-size fits all approach. The counties’ state representatives tucked a localized drilling moratorium into the state’s annual budget at the eleventh hour. The move angered rural counties left to cope with unrestrained gas drilling. The moratorium highlighted the dissimilar political clout enjoyed by suburban, urban, and rural Pennsylvanians on energy issues.

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184 Id.
187 Pennsylvania’s Busiest Drilling County: Bradford, supra note 183.
189 Id.
190 Id. (as one rural legislator quipped, “[w]hat makes Bucks and Montgomery [counties] so special?”)
Pittsburgh, Philadelphia, and Bradford’s disparate experiences with drilling and related legislation demonstrate that Act 13 was never meant to affect all of Pennsylvania’s localities equally. The inequity bristled some. After the suburban Philadelphia moratorium was passed, State Representative Jesse White, whose district encompasses parts of rural western Pennsylvania far from Philadelphia, criticized the exemption as unfair. White argued that “[i]f Act 13 isn’t good enough for some of us [Pennsylvanians], then it isn’t good enough for any of us.”

Alberta’s approach to its land use framework is instructive for Pennsylvania in this regard. The Canadian province has struck a balance between provincial and local concerns, and with a close eye toward physical characteristics unique to each planning region. Alberta’s land use strategy was given legal force in 2009 with the enactment of the ALSA, but the planning processes began in 2005, and continued through 2008. During that time, “landowners; municipal leaders and planners; agricultural, forestry, transportation and energy associations; conservation and environmental groups; recreational groups; and academics” were provided the opportunity to comment on the plan.

During the course of this planning, Alberta’s local leaders echoed Pennsylvania’s municipalities’ criticisms of Act 13. In fact, “the lack of land use decision making authority at the municipal level was a prevailing issue among . . . participants.” Also noteworthy

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192 Id.
193 Id.
194 Harvie & Mercier, supra note 127, at 296.
196 Id.
197 THE PRAXIS GROUP, MUNICIPAL CONSULTATION ON THE PROVINCIAL LAND USE FRAMEWORK INITIATIVE SUMMARY REPORT 5 (2006),
“was a common recognition that many land use planning issues are regional in nature.” 198 As the report summarizing municipal comments on the provincial plan put it—”One size does not fit all!” 199

Alberta’s solution to the municipalities’ concerns was to divide the province into seven land-use planning regions. 200 The seven plans are also being developed to “reflect the uniqueness and priorities of each region.” 201 Each regional plan sets “out regional land-use objectives and provides the context for land-use decision-making within the region.” 202 The “ERCB will now have to expand the scope of its considerations to . . . contemplate whether the proposed project conforms with the vision, goals, and objectives established in the regional plan.” 203

Resource extraction emerged as a higher priority in some regions than in others. The Lower Athabasca Region, for example, contains much of Alberta’s oil sands, and the development of this resource is the region’s paramount objective. 204 The South Saskatchewan Region, on the other hand, is “home to 45 percent of Alberta’s population and contains the province’s largest city, http://webcache.googleusercontent.com/search?q=cache:KHLLqbcTDiEJ:https:/\landuse.alberta.ca/Documents/LUF_Municipal_Consultation_on_the_Provincial\_Land_Use_Framework_Initiative_Report-2006-11.pdf+&cd=1&hl=en&ct=clnk&gl=us. 198 Id. at 6. 199 Id. at 32. 200 ALBERTA.CA, LAND-USE FRAMEWORK 19 (2008), available at https://www.landuse.alberta.ca/Documents/LUF_Land-use_Framework_Report-2008-12.pdf. 201 Id. 202 Id. 203 Harvie & Mercier, supra note 127, at 327. 204 Lower Athabasca Regional Advisory Council Advice to the Government, ALBERTA.CA (2010), https://landuse.alberta.ca/RegionalPlans/LowerAthabascaRegion/LARPRAC/Pages/default.aspx (last visited Jan. 9, 2013).
As a result, water management is the region’s “top concern,” and “stands to be the limiting factor on future population and economic growth.” Project permitting decisions will undoubtedly differ between regions focused on water conservation, as in South Saskatchewan, and energy, as in Lower Athabasca.

Once all regional plans are complete, the ALSA will leave oil and gas drillers with seven unique regulatory regimes to cope with. From an industry standpoint this may appear a less desirable situation than negotiating Alberta’s former province-wide land use rules regarding energy development, but, as discussed, recent unrest in Calgary regarding gas drilling has thrown the predictability of Alberta’s previous regulatory regime into question. The ALSA will alleviate those “cracks in the status quo . . . that foreshadow serious challenges to come as pressures on the provincial land base rapidly increase.”

A comparable approach to Pennsylvania’s search for workable uniformity and predictability would help alleviate the tension between the energy industry, the state, and local governments. Pennsylvania, like Alberta, is home to large swaths of rural land, as well as dense urban areas and suburban sprawl. A statewide land use regime applied to oil and gas must account for this reality. A regional approach, like Alberta’s, would strike a balance between those seeking recognition of local characteristics and the quest for uniformity and predictability. It would also give municipal

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206 Id.

207 Vanderklippe, supra note 23.

officials a meaningful place at the table when crafting rules for oil and gas drillers. Industry would also be placated, as negotiating even dozens of regions would be preferable to the thousands of individual municipal zoning codes currently in existence.

CONCLUSION

Pennsylvania and Alberta’s recent experiences with oil and gas development are much alike. Steady or slow development suddenly gave way to frenzied growth, and regulators are only now catching up. Here, however, is where the similarities end. Pennsylvania’s and Alberta’s treatment of local land use decision-making differ significantly. Alberta’s local governments play a comparatively minor role to those in Pennsylvania, yet the province intends to include them in the land use planning process. Pennsylvania’s localities enjoy more power, but have been bullied by the state government. Yet Pennsylvania’s political and cultural framework requires informed reliance on local input for a successful land-use regime to work. Regional stakeholders must be consulted, and municipal leaders given a chance to contribute meaningfully. And as the Canadians put it: One size does not fit all. 

Alberta’s approach to local land use as it relates to oil and gas development bears important lessons for Pennsylvania. Unlike the contentious and litigious relationship between Pennsylvania’s state and local governments, Alberta’s land use framework strikes a balance between local and provincial interests. Pennsylvania should take note.

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209 Pifer, supra note 1, at 622.
211 MUNICIPAL CONSULTATION ON THE PROVINCIAL LAND USE FRAMEWORK INITIATIVE SUMMARY REPORT, supra note 197.