HARVESTING FARMLAND: AN ANALYSIS OF NATIONAL FACTORS CONTRIBUTING TO THE USE OF LARGE-SCALE LAND ACQUISITIONS AS A FOOD SECURITY STRATEGY

by
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ABSTRACT

This thesis analyzes factors contributing to the recent trend of nations purchasing, leasing, or otherwise acquiring agricultural land abroad as a food production resource. These “large-scale land acquisitions” (LSLAs) have been studied extensively; however, scholars have mainly focused on LSLAs’ effects on “host” nations, providing only cursory explanations of “investor” nations’ motivations. This thesis corrects this deficiency in the literature by investigating drivers underlying the selection of a LSLA food security strategy. It conducts controlled comparisons of four case study nations, China, South Korea, India, and Saudi Arabia, which are diverse in terms of size, economics, politics, and other factors, but which all pursue food security LSLAs; it seeks to establish whether these nations share specific motivations for LSLAs, despite their differences, to determine the extent to which nations employing such a strategy, in general, share such motives. The first two chapters compare direct food security drivers of LSLAs in these states; the third examines if these nations share economic paradigms, to test if such paradigms act as an “underlying” stimulus of LSLAs. Regarding food security drivers, this thesis finds that all four face long-term rising and diversifying food product demand, limited production capacity, and reliance on food imports combined with a national preference for self-sufficiency; thus, LSLAs seem to be a method of reducing import dependence and securing access to food. Regarding economic outlook, this thesis finds that all four share an illiberal paradigm, consistent with these states’ aversion to markets. Given significant projected growth in world food demand, these findings could aid in predicting which nations might pursue such a policy in the future.

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**INTRODUCTION**

Ensuring access to and production of food is a major objective of nations, and national food security has been a critical challenge for states throughout history. Food security is a vital aspect of national security because if states fail to feed their populations, the outcomes are often revolutionary; one key example of this risk, according to many observers, is the fact that often “underlying the very real political aspirations” motivating the Arab Spring uprisings “was outrage at skyrocketing food prices.”¹ Consequently, states are willing to go to great lengths to secure access to agricultural resources and other essential products demanded by their populations, frequently investing heavily in a diverse array of domestic and international food security strategies and agricultural production tactics.

The challenges of food security were especially highlighted during the Global Food Crisis of 2007-2008, when food prices spiked considerably around the world; since then, prices have remained both high and volatile (see Figure 1).² Largely concurrent with this crisis, a “new” strategy for securing access to agricultural resources rose to prominence, the purchase, lease, or acquisition by nations of large tracts of agricultural land in foreign countries, called “large-scale land acquisitions” (LSLAs). This strategy has been pursued by a highly diverse range of states, including China, South Korea, India, Saudi Arabia, Qatar, Libya, Kuwait, Singapore, and others, and has targeted land in

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often-underdeveloped nations in Southeast Asia, South America, Africa, and the Former
Soviet Union.³

Much of the academic literature on food security LSLAs has examined these land
acquisitions’ negative or positive effects on “host” nations or local populations; this focus
is warranted, as there is an abundance of legitimate questions (and consequent debate)
over whether such strategies benefit or severely harm such populations. On one hand,
LSLAs can provide investment and employment in “host states” while also increasing the
overall production of food, potentially reducing global food prices.⁴ However, on the
other hand, these acquisitions can displace local populations that rely on the land. Host
governments often “desire…a quick fix to deep-seated problems” and, hence, “ask few
questions when investors come calling;” in their enthusiasm for investment, host
governments often “clear the land of existing inhabitants, and often don’t even ask for
rent.”⁵ In one of many significant examples, Ethiopia utilized a “villigization” program to
remove local tribes from land on which it “had granted a sixty-year concession on 25,000
acres” to a Saudi Arabian company, Saudi Star.⁶ Consequently, these investments can
“disregard users’ rights and further marginalize already vulnerable groups,” according to
LSLAs’ detractors.⁷

In light of LSLAs’ propensity to displace local populations in developing nations,
academic literature has also focused on comparing LSLAs to prior efforts to secure
resources that are traditionally considered deleterious for local populations, such as

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³ Fred Pearce, The Land Grabbers: The New Fight Over Who Owns the Earth (Boston: Beacon Press,
⁵ Pearce, The Land Grabbers: The New Fight Over Who Owns the Earth, viii.
⁶ Pearce, The Land Grabbers: The New Fight Over Who Owns the Earth, 4-5.
colonialism. Scholars often connect LSLAs to 19th century and earlier attempts at “land acquisition by foreigners,” viewing LSLAs as simply “the most recent phenomenon” of “countries…looking to outsource food, feed, and fuel production to stabilize future supplies.”\(^8\) Due to this comparison with colonialism, scholars also link LSLAs with “mercantilism,” an economic doctrine closely associated with 19th century colonialism that promotes domestic production and exports over trade and imports; mercantilism also heavily favors using economic power as a tool for national and political power.\(^9,10\) Thus, if LSLAs are truly derived from mercantilist tendencies, there also appears to be a significant “economic ideology” factor driving LSLAs; however, this factor is only minimally addressed in the literature.

Despite extensive research examining numerous facets of LSLAs, scholars have generally provided limited analysis of the motivations of “investor” nations; they have instead tended to focus more on normative questions regarding the benefit, utility, or value of LSLAs to populations at the local and global level. Although studies do extend beyond normative questions, for example, to compare LSLAs to historical trends such as colonialism or mercantilism, investor nations’ goals, objectives, motivations, and domestic circumstances have not been thoroughly investigated by scholars; further, even when investor motivations are described, the literature does not offer an in-depth country-by-country analysis. Moreover, most research tends to consider food security LSLAs as a response to the Global Food Crisis by wealthy and import-dependent nations. While this

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narrative partially explains the LSLA trend, as the Global Food Crisis did contribute to and highlight food security challenges faced by many countries, it is only one of many explanations and does not, on its own, depict the myriad detailed, long-term food security and other conditions influencing investor nations. Considering only a single explanation simplifies the phenomenon and reduces predictive power for determining which countries may pursue this strategy in the future.

In order to correct this deficiency in the literature, this thesis systematically investigates the specific motivations shared by the diverse range of investor nations. To do so, it conducts a controlled case study comparison of four nations that all pursue food security LSLAs but which otherwise differ in terms of economics, political systems, size, borders, regional location, and other factors; the nations selected for examination include China, South Korea, Saudi Arabia, and India. The first two chapters examine and compare the direct food security motivations underlying the selection of a LSLA food security strategy by these nations, specifically comparing their food security concerns and objectives, current food security policies, and LSLA implementation methods to determine the extent of overlap among these countries. In light of the findings of these two chapters and the previously noted connections among LSLAs, colonialism, and mercantilism, the third chapter explores the national economic paradigms of these four states; it seeks to determine whether these countries share economic outlooks and whether such outlooks can be considered a “secondary” motivation of LSLAs. Through this analysis, this thesis establishes factors that, in general, appear to motivate nations to pursue food security LSLAs; the findings should improve the predictive power of current literature.
The first chapter seeks to determine if nations pursuing food security LSLAs share specific food security motivations and objectives potentially contributing to LSLAs; it also explores whether such countries’ food security strategies and LSLA implementation styles are similar, to ensure that these countries’ behaviors are actually comparable. This chapter hypothesizes that those nations employing food security LSLAs will share many parallels in motivations, objectives, and strategies. To test this hypothesis, the first chapter examines two nations as case studies that both pursue food security LSLAs but are otherwise vastly different, China and South Korea. It compares these states’ food security conditions, objectives, responses to food security challenges, and LSLA policies, and then examines whether the factors driving the use of food security LSLAs by these countries overlap.

The first chapter finds significant similarities in the food security conditions, objectives, responses, and strategies of these countries. Both face drastically increasing and changing demand for food supplies driven by rising population growth, urbanization, increases in income resulting in consumption shifts to more agriculturally intensive products, and investment in biofuels that raises demand for a variety of crops. In addition, both have a limited supply base to produce agricultural commodities; each has low levels of arable land, decreasing endowments of such land based on urbanization, industrialization, and environmental degradation, a declining agricultural labor force, and plateauing crop yields. Further, these countries share a dependence on agricultural imports for many crops due to their food security conditions but have a national “wariness” of import markets; historically, both have established national targets for agricultural self-sufficiency and have developed long-term policies to promote this self-
reliance or otherwise mitigate the perceived risks of agricultural import markets. Lastly, both nations implement LSLAs in a similar manner; each encourages domestic private or state-run firms to invest in the land acquisitions, buttressed by financial, diplomatic, or other support from the government, in hopes that the food produced through LSLAs will be made available to the home country in a crisis.

The second chapter attempts to determine if the similar drivers of LSLAs found in the first chapter can be considered general among nations pursuing food security LSLAs. Although the first chapter establishes specific motivations in two highly disparate countries leading both to pursue LSLAs, given that both states are located in East Asia and could therefore share many region-based traits, more research was necessary to determine whether these findings are, in fact, general outside East Asia. Thus, the second chapter analyzes two additional case study nations, Saudi Arabia and India; like those of the first chapter, both nations pursue food security LSLAs but are otherwise nominally quite diverse. This chapter examines the food security concerns, objectives, responses, and strategies of these case study nations, according to the same template as the first chapter, and subsequently compares the findings for all four case study nations to determine if the results of the first chapter can be considered general (beyond the East Asian region). This chapter hypothesizes that the outcome of such an analysis will prove in the affirmative.

The findings for the second chapter are essentially the same as those for the first chapter. Both India and Saudi Arabia face rapidly growing populations that are also urbanizing and rising in income; thus, demand for an ever-increasing variety of foods, as well as for food in general, is quickly expanding. Similar to China and South Korea,
Saudi Arabia and India also face low and falling levels of arable land combined with agricultural sustainability challenges. Additionally, Saudi Arabia and India depend on imports for a variety of food products, but they are also averse to import markets and have historically preferred self-sufficiency, when sustainable; they have likewise each implemented a range of policies to support self-sufficiency or to reduce the risks of import dependence. Finally, both share similar LSLA policies with China and South Korea; both encourage domestic firms to invest abroad, supported by diplomatic and financial resources from the government. Given the evident similarities in food security conditions among all four case study nations, it appears that these factors are general among nations pursuing LSLAs; this “generalizability” is further demonstrated by preliminary findings of these same parallels among other LSLA-pursuing nations (described within the second chapter), such as Qatar, Kuwait, and Singapore.

Fundamentally, the first two chapters find specific food security conditions that motivate parallel behaviors and policies among extremely diverse nations. These results appear to be general among nations employing food security LSLAs and, thus, should provide insights for scholars and policymakers in predicting which nations are most likely to choose such a policy in the future. Given the potential effects of LSLAs, which can range from local investment and reduced global food prices to local displacement, food insecurity, and even political revolutions (for example Madagascar, as described in chapters one and two), understanding the direct food security motivations of nations pursuing LSLAs as well as being able to predict which nations might use such policies is critical; the value of this predictive power may rise in the future, since, by some estimates,
global food demand is expected to increase 100-110% by 2050, which could drive more countries to seek LSLAs.\textsuperscript{11}

While understanding the direct food security conditions that tend to motive LSLAs is valuable, policy responses to a given set of circumstances can vary greatly among countries, even if the circumstances themselves are the same for each country. Thus, in order to understand why a nation chooses a specific policy or strategy, it is vital to examine the “paradigm” or outlook of that country, which ultimately establishes a political environment delimiting the range of possible policy choices. In light of the connections noted in the literature among colonialism, mercantilism, and LSLAs, as well as the first two chapters’ findings regarding the preference for self-sufficiency and aversion to imports in LSLA-pursuing nations, it appears that the most valuable national paradigm through which LSLAs could be examined is political economics; since LSLAs appear to be a state economic intervention tool used to promote food production self-reliance while circumventing import markets, it is likely that policymakers promoting such a strategy do not trust the “free” market and may subscribe to a common economic ideology or overall outlook.

Therefore, the third chapter investigates the economic outlooks of the four case study nations previously examined to determine if there exist parallels among the outlooks of nations pursuing food security LSLAs; it hypothesizes that all four nations will subscribe to an economic outlook that is “illiberal,” “mercantilist,” or “nationalist” in nature, given LSLAs’ connection with colonialism and mercantilism. To conduct this analysis, this chapter explores the economic histories and current policies of each case.

\textsuperscript{11} David Tilman et al., "Global food demand and the sustainable intensification of agriculture," \textit{Proceedings of the National Academy of Sciences of the United States of America} 108, no. 50 (December 2011): 20260.
study nation and subsequently compares the findings. While this chapter does not attempt to prove that economic outlook is a “direct” motivator LSLAs in the same capacity as food security concerns, it does seek to establish whether a national economic paradigm is shared among all nations pursuing such a strategy. A shared paradigm would indicate that all four have similar policy environments that could influence national decision-making and determine the type of policies that could be considered; this parallel would thus establish whether economic outlook could be considered a “secondary” motivator of LSLAs (with food security concerns as a “primary” motivator”).

The third chapter confirms the hypothesis that LSLA-pursuing nations maintain a generally illiberal economic paradigm. All four nations demonstrate significant histories of economic illiberalism; China has been historically communist, India has been socialist, South Korea’s economic growth has been characterized by heavy state involvement, and Saudi Arabia has used oil revenues to achieve domestic and international political goals. Moreover, each of these nations retains numerous vestiges of its illiberal past, which carry through to modern policies. For example, all four allow a significant role in the economy for state-owned enterprises, utilize a range of trade and investment barriers to promote domestic industry and minimize foreign investment, pursue opaque sovereign wealth funds that can be used for geopolitical goals, and employ “mercantilist” resource security strategies, such as encouraging state-owned companies to purchase or acquire resources abroad (similar to LSLAs). Fundamentally, all adhere to an illiberal paradigm, encouraging the state to intervene in economic matters for national or political benefit; in light of these findings, it seems that, while the primary drivers are food security-based, economic illiberalism can be considered a general “secondary” motivation of LSLAs.
In essence, the purpose of this thesis is to establish both primary and secondary conditions that, in general, motivate nations to pursue food security LSLAs. As described previously, it is structured in three chapters, with each exploring a slightly different aspect of the underlying drivers of LSLAs; because each chapter conducts a unique analysis and, therefore, calls on largely disparate bodies of literature, each chapter in the portfolio conducts its own review of the literature relevant to its investigation. This thesis ultimately achieves two fundamental goals. First, it contributes to the academic literature by correcting a deficiency in the research on LSLA investor nation motivations; second, given anticipated increases in world food demand, it addresses the tangible challenge of providing policymakers and scholars the ability to predict which nations might use a LSLA policy and what conditions may motivate their choice.
CHAPTER 1

Introduction

George Washington once stated, “I know of no pursuit in which more real and important service can be rendered to any country than by improving its agriculture.”

Feeding the population is a major national security challenge and objective for nations, and throughout time countries have implemented a wide range of plans to secure access to food and food-producing resources. Whether investing in agricultural development, subsidizing farmers, or directly expanding territory, governments frequently work to strengthen their state’s productive capacity in agriculture to ensure “food security.”

In recent years, however, there has been significant growth of a “new” strategy for ensuring self-sufficient food production: government-supported purchases or long-term leases of agricultural land. These land deals, known as large-scale land acquisitions, have occurred throughout the world sponsored by numerous investor countries; for example, claims have been made that China is poised to lease from Ukraine “three million hectares, an area equivalent to Belgium or Massachusetts” as part of a “50-year plan.” This strategy, criticized as “land grabbing,” is often cited for deleterious effects on local “host nation” populations, and is hence compared to 19th century colonialism.

According to much of the literature, the use of this new strategy appears to be related to attempts by import-dependent countries to hedge against the price volatility experienced acutely during the Global Food Crisis of 2007-2008. However, is this the full story?

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13 Alex Spillius, "China 'to rent five per cent of Ukraine'", The Telegraph, September 24, 2013.
14 Spillius, "China 'to rent five per cent of Ukraine'."
The types of countries that invest in LSLAs for food security are wide-ranging; claims of “land grabbing” have been made against nations ranging from China and India to South Korea and the Gulf states.\textsuperscript{15} Due to the significant differences among these investor countries, this chapter seeks to determine if there are specific national factors shared by investor countries that lead to a strategy of LSLAs for food security purposes; if so, it will identify and examine these factors. Additionally, for those nations that utilize LSLAs, this chapter will investigate how LSLAs fit into the broader context of an overall national food security strategy. In order to conduct this analysis, this chapter will evaluate two widely different countries, China and South Korea (Korea), as case studies.

**Literature Review**

Throughout history, humanity has struggled with its inescapable need to consume resources scarce in nature. Though many resources are “scarce,” one of the most critical resources for survival and national stability is food. As populations grow and change, “food security” becomes a progressively more substantial challenge for nations, requiring increasingly innovative strategies. One recent national response to the food security issue, discussed at length in this chapter, is large-scale land acquisitions, which involve nations purchasing or leasing tracts of agricultural land abroad. In order to understand this practice, this section first explores the foundations, causes, and responses to the food and resource scarcity issue. After analyzing these, this section examines current literature on LSLAs and determines potential areas of future scholarly investigation.

**Food Scarcity Causes and Responses**

Academic literature generally agrees that the central driver of the concept of “scarcity” is human demand, coupled with some limit on world supply based on the

\textsuperscript{15} Spillius, "China 'to rent five per cent of Ukraine'."
Earth’s endowment of a particular resource. As Homer-Dixon explains, “resource
scarcity…is determined not just by absolute physical limits, but also by preferences,
beliefs, and norms.” Additionally, as Daoud explains, “scarcey is a property that
emerges in relation to human activity or social provisioning.” Based on this human
demand-focused view of scarcity, many scholars of food and resource security evaluate
the effects of population growth on scarcity.

One of the earliest analyses of population growth and food scarcity is Thomas
that because “population, when unchecked, increases in a geometrical ratio” and
“subsistence increases only in an arithmetical ratio,” food scarcity provides “a strong and
constantly operating check on population from the difficulty of subsistence.”

Although Malthus’ argument is often criticized for failing to account for agricultural productivity
increases through technology, it has remained central to the food security debate for
future academic generations. Throughout the 20th century, neo-Malthusians have
predicted shortages due to population growth; for example, Paul Ehrlich predicted “a
minimum of ten million people…will starve to death during each year of the 1970s” due
to overpopulation. Regardless of individual stances, it is generally agreed that
population growth is a key component of food scarcity, especially since Malthusian fears

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20 Eccleston, "Peak Food?" 10.
continue to be cited by modern scholars including Siegenbeek van Heukelom, Daoud, and Verpoorten.\textsuperscript{22,23,24}

In conjunction with population growth, an additional cause of food demand and scarcity cited by many scholars is demographic and consumption changes. For example, as Naylor and Falcon explain, “a human population nearing 7 billion, coupled with increased incomes in many developing countries, has created greater demand for meat, vegetable oils, and other high-end food products.”\textsuperscript{25} Similarly, Gunasekera, Newth, and Finnigan argue, “if developing countries converge to the dietary patterns of developed countries, there will be a significant increase in the consumption of meat and dairy products.”\textsuperscript{26} The literature suggests that rising incomes shift national consumption tastes to dairy and meat;\textsuperscript{27} such trends increase food scarcity since cattle (and livestock) “[require] massive amounts of grain for feed.”\textsuperscript{28,29}

Lastly, scholars note environmental drivers of scarcity. For example, Homer-Dixon cites human-based “environmental change” and “unequal distribution of resources” as causing scarcity, in addition to “population growth,” specifically for “renewable
resources” such as “fresh water” and “fertile soils.” 30 Many works, such as by Spieldoch and Murphy and by Dike and Dike have reiterated Homer-Dixon’s findings, for example regarding environmental change and degradation. 31,32 Taken together, the factors of population growth, demographic and consumption shifts, environmental change or degradation, and the unequal distribution of resources appear to be the major drivers of food and resource scarcity.

LSLAs are one response to resource security concerns; however, nations have utilized myriad strategies to secure access to food and other natural resources. Historically, according to several scholars, colonization was a major response to resource security concerns. As explained by Spieldoch and Murphy, “colonization of farmland by foreign settlers dates back thousands of years” and “the colonizers appropriated much of the most fertile land for themselves;” 33 according to Cotula, “colonial administrators used their control over the land to open up Africa’s resources for settlers and companies.” 34 This literature suggests that nations acquiring land abroad for agricultural and resource security is not a new phenomenon.

Additionally, three major interrelated mechanisms for “responding” to food security issues are demographic alterations, consumption changes, and expanded food production. One of the primary works advocating these methods is David Ricardo’s The Principles of Political Economy & Taxation, written in 1817 in part as a critique of Malthus’ prediction of population-induced famine. Ricardo argues, “it is only because the

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31 Spieldoch and Murphy, "Agricultural Land Acquisitions," 45-46.
33 Spieldoch and Murphy, "Agricultural Land Acquisitions," 40.
expenditure of the people takes [the form of larger families], that the market price of
necessaries (food) exceeds the natural price, and that the quantity of food required is
produced.”35 Fundamentally, Ricardo asserts that population and food production levels
are directly related; when food becomes scarce, its price will rise and people will farm
more or reproduce less.36 Much of the contemporary literature in support of LSLAs
implements this reasoning; for example, Hallam contends that agricultural investment
abroad based on domestic food demand could lead to “an increase in food supplies for the
domestic market and for export.”37 Similarly, Robertson and Pinstup-Andersen assert,
“investment in the agriculture of a developing country has the potential to raise
productivity [and] meet the nutritional needs of the population.”38

Other national responses to food security concerns expressed in the literature
include, according to Hallam, “the creation of regional food reserves, financial
instruments to manage risk, bilateral agreements including counter-trade (barter
arrangements), and the improvement of international food market information systems.”39
Further, investment in agricultural technological advancements such as fertilizers may aid
in assuaging food security concerns.40 Rosenberg, for example, argues, “one of the main
economic consequences of scientific progress is to enlarge continually the range of

278.
37 David Hallam, “International Investments in Agricultural Production,” in *Land Grab: The Race for the
International Center for Scholars, 2009), 33.
38 Beth Robertson and Per Pinstup-Andersen, “Global Land Acquisition: neo-colonialism or development
opportunity?” *Food Security* 2 no. 3 (September 2010): 279.
40 Eccleston, "Peak Food?" 11.
substitution possibilities which confront advanced industrial economies.” In sum, the academic literature demonstrates that there are many possible responses to the food and resource security issue, only one of which is the strategy of LSLAs.

**Large-Scale Land Acquisitions**

Over the past half-decade, there has been significant growth in the practice of large-scale land acquisitions, characterized by Spieldoch and Murphy as “negotiations on the part of governments and private firms looking to sign agreements that would confer ownership of, or long-term leases on, land abroad.” In the case of leases, the duration, according to Cotula and Vermeulen, “ranges from short terms to 99 years.” These land deals, described throughout much of the literature as “land grabs,” have sparked significant controversy in the academic and non-academic community specifically over their scope and effects on local “host nation” populations. This section focuses on current controversies in the literature, then reviews the general drivers of LSLA strategies, and lastly illustrates LSLAs’ relation to past colonialism and modern economic liberalism.

One significant cause of controversy in the current scholarship involves the scope of LSLAs. Uncertainty regarding scope appears to be based on the fact that, according to Cotula, “most of the estimates of scale…are derived from varying combinations of two types of sources: international review mainly based on media and research reports…and systematic national inventories based on official government records.” At one end of the spectrum, media reports and those by Non-Governmental Organizations (NGOs) such

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42 Spieldoch and Murphy, "Agricultural Land Acquisitions," 39.
43 Lorenzo Cotula and Sonja Vermeulen, "Deal or no deal: the outlook for agricultural land investment in Africa," *International Affairs* 85 no. 6 (November 2009): 1240.
44 Cotula and Vermeulen, "Deal or no deal: the outlook for agricultural land investment in Africa," 1233.
as Genetic Resources Action International (GRAIN), Oxfam, etc. tend to display larger estimates, especially since they may be produced “with the aim of promoting public accountability.”46 For example, Oxfam estimated in 2011 that “as many as 227 million hectares of land – an area the size of Western Europe – has been sold or leased since 2001, mostly to international investors.”47 On the other hand, inventories of land deals by host nation governments “tend to be lower than [data] based on media reports;” according to Cotula, “in Mozambique, for example, media sources arrived at more than ten million hectares acquired between 2008 and 2010, while a national inventory for the period 2004-09 calculated a figure closer to 2.7 million.”48 Other organizations have attempted to include more rigorous estimates, such as the “Land Matrix,” which cross-references “research papers and policy reports by international and local organisations and NGOs,” personal crowd-sourced information, “field-based research projects,” “official government records,” “company websites,” and “media reports.”49 The Land Matrix currently estimates that 31.9 million hectares (ha), 123,167 square miles, have been included in LSLAs.50

A second major question in the literature is the effect of LSLAs on local “host nation” populations. There tend to be two overarching viewpoints on this subject, based primarily on whether the benefits of LSLAs outweigh the costs. This viewpoint divide is well categorized by Narula, who states, “proponents [of LSLAs] argue that these investments can support economic development in host states while boosting global food

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production,” however, “critics charge that these ‘land grabs’ disregard users’ rights and further marginalize already vulnerable groups.”51 Most scholars recognize the potential for either outcome and, therefore, argue for a variety of methods to increase benefits to local populations; such scholars include Cotula and Vermeulen, Narula, Telesetsky, and Siegenbeek van Heukelom.52,53,54,55 Cotula and Vermeulen assert that “greater transparency, effective regulation, skillfully negotiated contracts, and robust social and environmental impact assessments and management systems” must exist “to promote national and local development.”56 Similarly, Siegenbeek van Heukelom suggests, “investments in agricultural land should ultimately feature a clear ethical component aimed at emancipation, for instance, a reciprocity of rights.”57

In contrast to LSLAs’ scope and host nation effects, scholars typically agree on the nations and actors involved. According to Robertson and Pinstrup-Andersen, “the most common characteristics of foreign investors in the acquisition of land are capital-rich, natural-resource poor Arab and East Asian governments and corporations.”58 Cotula and Vermeulen add to this analysis, asserting, “quantitative inventories suggest that key investor countries are located in Europe and Africa as well as the Gulf and South and East Asia.”59 Within this category, according to Sparks, “there are various types of buyers, including state-owned enterprises, sovereign wealth funds, foreign and domestic private

52 Cotula and Vermeulen, “Deal or no deal: the outlook for agricultural land investment in Africa,” 1245.
56 Cotula and Vermeulen, "Deal or no deal: the outlook for agricultural land investment in Africa," 1245.
58 Robertson and Pinstrup-Andersen, "Global Land Acquisition: neo-colonialism or development opportunity?" 273.
59 Cotula and Vermeulen, "Deal or no deal: the outlook for agricultural land investment in Africa," 1235.
sector investors, and central government agencies. Moreover, according to Cotula and Vermeulen, many states pursuing food security LSLAs are in the “Gulf and East [Asia]” and “heavily dependent on food imports.” Nations hosting LSLAs are often those with “cheap and abundant farmland, particularly in Africa,” though also in Southeast Asia and the Former Soviet Union.

There is also overall academic agreement about the general drivers of a LSLA strategy. As described by Borras Jr. and Franco, Spieldoch and Murphy, as well as others, there are fundamentally two interrelated drivers behind land grabbing: biofuel (such as corn and sugar-based ethanol or vegetable oil-based biodiesel) production and food security. In terms of biofuels, the literature agrees that there has been a recent upsurge in demand for biofuels, as well as for the agricultural land to produce them, due to “biofuels support policies that mandate a minimum market for the industry” and “demand for energy to fuel growth in emerging economies.” In terms of food security, there appears to be demand for agricultural investments from “resource-poor but cash rich” nations, especially those with “fast-growing populations” and dependency on “international markets for their food supply.” According to Spieldoch and Murphy,

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60 Sparks, "Large Scale Land Acquisitions in Sub-Saharan Africa: The New Scramble," 687.
61 Cotula and Vermeulen, "Deal or no deal: the outlook for agricultural land investment in Africa," 1235.
62 Robertson and Pinnstrup-Andersen, "Global Land Acquisition: neo-colonialism or development opportunity?" 271.
63 Telesetsky, "Resource Conflicts over Arable Land in Food Insecure States," 285.
65 Spieldoch and Murphy, "Agricultural Land Acquisitions," 42.
67 Spieldoch and Murphy, "Agricultural Land Acquisitions," 43.
70 Robertson and Pinnstrup-Andersen, "Global Land Acquisition: neo-colonialism or development opportunity?" 273.
“investing countries for the most part lack arable land and, especially, sufficient fresh water to grow what they need domestically.”71 Food security has also become an increasing concern since, according to Sparks and Eccleston, crop yields in recent years have been plateauing, which could potentially lead to a Malthusian-type crisis.72,73 These biofuel and food security issues are also extensively interconnected, according to Hojjat, because “both compete for the same inputs;” “200kg of maize” could either fill one gas tank with biofuel or “feed one person for a year.”74

Research also concurs that a primary factor leading to the recent surge in LSLAs is the Global Food Crisis of 2007-2008. During this period, both oil and food prices increased greatly; according to Naylor and Falcon, “world prices (in dollars) of…wheat, rice, maize, and petroleum – roughly tripled in real terms during the first half of 2008.”75 These price increases, according to Spieldoch and Murphy, “were the result of a combination of supply problems, protectionist moves by some of the main suppliers to world markets, and the new demand created by biofuels support policies.”76 These causes have been reiterated and expanded upon by additional scholars, for example Conceicao and Mendoza, who discuss the effects of financial speculation, high oil prices, government biofuel policies, and agricultural productivity.77 Further, the biofuel, food, and oil price increases appear directly related, since, according to scholars such as Naylor and Falcon, “petroleum prices also serve as a reference point for the profitability of

71 Spieldoch and Murphy, "Agricultural Land Acquisitions,” 41.
72 Sparks, "Large Scale Land Acquisitions in Sub-Saharan Africa: The New Scramble," 687.
73 Eccleston, "Peak Food?” 11.
75 Naylor and Falcon, "Food Security in an Era of Economic Volatility," 694.
76 Spieldoch and Murphy, "Agricultural Land Acquisitions," 42-43.
maize-based ethanol, and hence affect the demand for and price of maize.”78 Therefore, many nations investing in LSLAs appear to be trying to hedge against price volatility “in order to secure reliable food sources for their domestic populations.”79 Though the literature has not focused on investors on a country-by-country basis, the above analysis demonstrates that some of the factors that should cause countries to seek land abroad are: rising populations, reliance on imports for food, domestic crop yield stabilization, growing energy needs, biofuel production policies, and shifting or growing food needs.

Lastly, while LSLAs have roots in colonialism, they also rely on modern liberal economic principles and institutions. Thus, many scholars, such as Margulis, McKeon, and Borras Jr., view LSLAs as “a unique world historical event that reveals a nascent shift in the global political economy,” and as a “de-territorialization and commodification of sovereign national territory.”80 The literature also sees these deals as differing from historic colonialism. According to Kugelman, “they are concluded on the basis of agreements instead of through the barrel of a gun” and involve “more government-led investment than in the past;”81 similarly, as described by Siegenbeek van Heukelom, LSLAs are “two-party deals between the investing company and the hosting government,” even if “other affected parties,” such as local inhabitants, are “absent in the majority of deals.”82 However, as explained by Margulis, McKeon, and Borras Jr., although LSLAs are “facilitated by the institutions and practices of neo-liberal globalization,” often they

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are conducted for “‘security mercantilism’ that may have illiberal ends.”¹³ Hence, one possible trait of LSLA investor nations may be the use of liberal economic institutions and adherence to an “illiberal” national economic outlook.

Shortcomings and Contributions

Most literature on LSLAs appears to focus on these investments’ key controversies. This focus results in an emphasis on host states, since the controversies are mainly centered on these locations; there is detailed analysis of LSLAs’ content and scope, local and global benefits and costs, and “colonial” or economic elements. However, few studies examine individual investor nations and the common traits that might motivate land investments abroad for food security. While scholars do offer cursory descriptions of some factors common to investor states, they do not provide in-depth analyses of these nations or explain why they choose LSLAs over (or in conjunction with) other food security strategies. Thus, this chapter seeks to provide greater insights into common factors in investor states that may lead to the use of LSLAs as a food security strategy; to do so, it examines two nations as case studies that both use LSLAs but are otherwise relatively dissimilar, China and South Korea.

Theory and Hypothesis

This chapter hypothesizes that those countries utilizing LSLAs as a food security strategy share many common characteristics, specifically regarding their food security concerns and response strategies. Further, it hypothesizes that LSLAs play a supporting role in an overall food security strategy, and that among countries using LSLAs for food security these overall strategies are similar. By investigating this hypothesis, it attempts to identify which common national factors, specifically those concerning food and

agricultural resource constraints, might lead to the selection of LSLAs as a food security strategy. Thus, to test this hypothesis, this chapter analyzes two countries as case studies that have, on the surface, very different national circumstances but which both utilize LSLAs: China and South Korea.

As the Literature Review demonstrates, the food security concerns that may be shared, even by vastly dissimilar countries, might include population-based factors, diet and consumption changes, or environmental and land-based factors. These countries, regardless of their differences, will likely share similar natural resource or financial endowments and may be heavily dependent on food imports. Further, nations utilizing LSLAs may share similar overall food security strategies, within which LSLAs will likely play a significant but supporting role. Such strategies might include the use of food reserves, bilateral trade agreements, and technological investment in agriculture. Further, these countries may be likely to combine “realist” with “liberal” economic policies.

**Methodology**

As discussed in the previous section, this chapter investigates which national factors lead countries to pursue a LSLA food security strategy. To determine this, it compares the food security concerns and responses of two countries as case studies that initially appear to have vastly different national characteristics but which both utilize LSLAs, China and South Korea. This chapter then examines the areas of overlap between these disparate countries and explores which mutual factors are most critical to the choice of a LSLA strategy. Given the different starting points of these countries, a controlled comparison of the areas of overlap, specifically those regarding food security concerns,
should provide insights into the selection of LSLAs as a food security strategy. All main findings are as of November 2013.

This chapter selects China and South Korea as case studies because these states are significantly different by most measures but share their use of food security LSLAs. According to the CIA World Factbook, China is a “Communist State” with 1,349,585,838 people and a total land area of 9,596,961 square kilometers.84 The country borders 14 states, Afghanistan, Bhutan, Burma, India, Kazakhstan, North Korea, Kyrgyzstan, Laos, Mongolia, Nepal, Pakistan, Russia, Tajikistan, and Vietnam.85 It has a Gross Domestic Product (GDP) of $12.61 trillion, a GDP growth rate of 7.8%, and a GDP per capita of $9,300, the 124th highest in the world.86 In contrast, South Korea is a “Republic” with 48,955,203 people (this estimate varies with World Bank data) and a total area of 99,720 square kilometers.87 South Korea borders one state, North Korea.88 It has a GDP of $1.64 trillion, a GDP growth rate of 2%, and a GDP per capita of $32,800, the world’s 43rd highest.89

Although these nations differ greatly in factors such as demographics, size, economics, geography, and politics, this chapter explores similarities in their food security concerns and strategies that lead to the use of LSLAs. Further, it compares these countries’ LSLA implementation methods to ensure that their LSLAs are actually similar. If the results demonstrate significant areas of overlap between Chinese and Korean food security concerns, strategies, and LSLA implementation, then the concerns and strategy

parallels should play a role in these states’ choice of food security LSLAs. If similarities cannot be established, then the choice of LSLAs may be driven by other factors.

Although this chapter tests commonalities between the food security concerns of vastly different countries to determine if these parallels result in similar policies, any results which demonstrate such parallels may not uncover all possible causes of LSLAs as a food security strategy. This chapter primarily serves to determine if common food security factors play a role in LSLAs, however, there may be additional factors beyond this chapter’s scope. For example, while the case study nations have been selected specifically for their apparent differences, there may be similarities between these nations not tested by this chapter that contribute to LSLAs, such as social, political, economic, or cultural parallels. Future research into such comparisons may be valuable in uncovering other causes of the LSLA phenomenon.

One key challenge this research faces is data availability, especially due to its case study-based methodology. This chapter individually analyzes countries’ conditions and policies; thus, availability of data may vary by nation, largely due to the extent of English-language sources in each state. This chapter seeks comprehensive data for every case study despite this challenge; however, the specific sources used for each may vary.

Lastly, to define terms, food security concerns involve any major factors limiting access to food at the national level. As the Literature Review illustrates, these factors could include demand issues, such as population or diet patterns, or supply issues, such as global import market conditions or domestic endowments of land, water, or other agricultural resources. Food security strategies involve any national response to food supply limits or risks, such as imports, food reserve programs, trade agreements, or
LSLAs. Finally, LSLAs include any land deals conducted via a directed national effort to produce agricultural products within foreign countries for food security, regardless of whether these deals are operationally implemented by governments or private enterprise.

**Results**

Despite considerable differences, China and South Korea have both pursued LSLA strategies to achieve greater security in food supply sources. Further, these nations have implemented their strategies in a similar manner, encouraging national companies to invest abroad in agricultural land and production. This section will cover, for each nation, the food security circumstances leading to the selection of a LSLA food security strategy and will then analyze how LSLAs fit within an overall food resource strategy context.

**China – Food Security Concerns**

China faces a number of challenges and concerns regarding its food security. These challenges can fundamentally be divided into two categories, demand-based issues and supply-based issues. This section explores these categories of challenges, both of which contribute to China’s selection of specific food security strategies.

As discussed above, scarcity is largely based on human demand; likewise, rising or changing food demand is a major concern for China’s food security. China contains approximately 21% of the world’s people and its population projected to peak at 1.4 billion by 2025 (a projection that may increase given China’s recent relaxation of its “One Child Policy”). Not only will these additional people need food, but also, due to projected rising incomes and the urbanization of “some 200 million rural residents”

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91 Hon-Ming Lam et al., "Food supply and food safety issues in China," *Lancer* 381 (June 2013): 2044.
over the next 15-20 years, consumption patterns within China will change to satisfy new diets.\textsuperscript{93} Over this period, for example, “a more meat-oriented diet will appear;” such a shift will require the production of “an additional 80 to 100 million tons of grain” for animal feed, since production of “one ton of poultry requires two tons of grain while one ton of pork requires four tons.”\textsuperscript{94,95} The trend of increasing meat-based demand has already been demonstrated over the 2000-2010 period, with higher income individuals in China eating “50 per cent more of pork, beef, mutton and poultry meats” and “significantly more dairy products and aquatic products.”\textsuperscript{96}

Grain demand has also been driven up by biofuel production to satisfy Chinese fuel needs. According to Koizumi, “from 1990 to 2008, the market for passenger cars grew from 0.51 to 9.38 million” in China, now “the second-largest car market in the world;” China is now “the second-largest petroleum consumer in the world” after the U.S.\textsuperscript{97} To partially satisfy this demand, given its limited oil resources, China has become “the third-largest bioethanol-producing country,” mainly using corn and sometimes wheat as feedstock; it also produces biodiesel from vegetable oil or used cooking oil.\textsuperscript{98} The need for feedstock raises demand and, thus, prices of corn, wheat, and vegetable oil; further, these feedstock crops also compete with food crops for land and agricultural resources.\textsuperscript{99}

China also faces significant supply-based challenges to its food security, which limit its agricultural productive capacity. First, although accounting for about a fifth of

\textsuperscript{94} Liao, "China's Food Security," 105.
\textsuperscript{96} Li-Juan Cao, et al., "Recent Food Consumption Trends in China and Trade Implications to 2020," \textit{Australian Agribusiness Review} 21, no. 1 (2013): 17.
\textsuperscript{97} Tatsuji Koizumi, "Biofuel and food security in China and Japan," \textit{Renewable and Sustainable Energy Reviews} 21 (January 2013): 103.
\textsuperscript{98} Koizumi, "Biofuel and food security in China and Japan," 103-104.
\textsuperscript{99} Koizumi, "Biofuel and food security in China and Japan," 108.
the world’s population, China “has only 7-9% of the world’s arable land,” and its “arable land per person is well below the global average.” Further, “the area of China’s arable land has been decreasing for the past 50 years” due to environmental degradation, urbanization, and industrialization; according to the World Bank, China’s arable land area has decreased from approximately 122 million ha in 2004 to 111 million in 2011.

Beyond land availability, land-quality and capacity are also formidable concerns. Much of China’s arable land is “subject to environmental stresses such as drought” and, in fact, “only about 40% is classified as the highest grade (most suitable for crop production).” Further, crop yield increases have diminished as “new seed technology and modern farming practices…have run their course, and overuse of chemical inputs has led to deteriorating soils.” Moreover, irrigation is vital to China’s crop production, accounting for “75% of the country’s grain production” and “more than 60% of the country’s total water consumption,” making droughts and water scarcity significant challenges. This concern is critical, as China’s climate is disaster-prone; “China suffers from crop losses equal to about 10 per cent of the total grain output each year as a result of bad weather and spoilage.”

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100 Lam et al., “Food supply and food safety issues in China,” 2045.
101 Lam et al., “Food supply and food safety issues in China,” 2045.
103 Lam et al., “Food supply and food safety issues in China,” 2045.
105 Lam et al., “Food supply and food safety issues in China,” 2045.
Demographics are affecting agricultural productivity as well, since between 200 and 300 million rural individuals will become urbanized by 2025-2030.\textsuperscript{107,108} Further, China’s farmers are aging as “more young people [are] leaving farming to work in cities.”\textsuperscript{109} These factors may diminish agricultural labor supply during a period of overall population growth.

\textit{China – Food Security Responses: Imports}

In light of these food security concerns, one may wonder why China does not simply depend on agricultural import markets. However, China tends to have a reluctance, and to some extent an inability, to rely on these markets; in fact, Chinese agricultural policy targets a “grain self-sufficiency rate of above 95\%.”\textsuperscript{110,111} One key reason for this import-aversion is based on national history; the massive famines under the “Great Leap Forward” are “still fresh in the collective memory of the present Chinese leadership.”\textsuperscript{112} Moreover, China’s experience with 19\textsuperscript{th} century semi-colonialism leads to a belief that the “[world] grain market is controlled by advanced nations, and once we have lost grain security, we are bound to be enslaved by them.”\textsuperscript{113} This view is somewhat valid, as only four firms dominate the global grain trade: ADM, Bunge, Cargill, and Louis Dreyfus.\textsuperscript{114}

There are also structural reasons for China’s import aversion. First, China’s sheer size may be prohibitive to total import reliance. In 2010, “global grain trade” was

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\textsuperscript{107} Liao, "China's Food Security," 105.
\textsuperscript{108} Gilmour and Phillips, "China: An Agri-Food Prospectus," 56.
\textsuperscript{109} Zhengzhou Yang, "Demographic Changes in China's Farmers: The Future of Farming in China," \textit{Asian Social Science} 9, no. 7 (June 2013): 138.
\textsuperscript{110} Xinhua, "China Focus: Regions work toward self sufficiency goal in grain supply," \textit{Xinhuanet}, December 24, 2008: 1.
\textsuperscript{112} Wong and Huang, "China's Food Security and Its Global Implications," 113.
\textsuperscript{113} Zhang, "How China, A Rising World Power Deals with Current Crisis and Challanges Facing the World," 7.
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“approximately equivalent to 50 per cent of China’s total production (and consumption).”\textsuperscript{115} Further, if China were to reduce production of pork by 10%, “the amount of imports required to meet Chinese demand would be equivalent to 92 percent of total global pork trade.”\textsuperscript{116} Therefore, if China were to import only “10 per cent of its annual consumption, its import requirements would seriously [destabilize] world grain markets and drive up world inflation.”\textsuperscript{117}

Price volatility is also a major concern for China. Since the Global Food Crisis of 2007-08, food prices have been high and volatile, as demonstrated by the below figure from the United Nations Food and Agriculture Organization (FAO):\textsuperscript{118}

\textit{Figure 1}

\textbf{U.N. Food And Agriculture Organization – Food Price Index 1990-2013}

Given that some forecasts project global food demand to increase 100-110% by 2050, this price volatility may continue;\textsuperscript{119} such a trend may be intensified by the fact that nations often impose export restrictions when food supplies are uncertain, as did “a

\textsuperscript{115} Wong and Huang, "China's Food Security and Its Global Implications," 114.
\textsuperscript{116} Baldwin and Bonarriva, "Feeding the Dragon and the Elephant," 15.
\textsuperscript{117} Wong and Huang, "China's Food Security and Its Global Implications," 114.
\textsuperscript{118} United Nations Food and Agriculture Organization, \textit{FAO Food Price Index}.
\textsuperscript{119} Tilman et al., “Global food demand and the sustainable intensification of agriculture,” 20260.
number of major producers” during the Food Crisis.\textsuperscript{120} Due to this potential volatility, exacerbated by China’s sheer size, China appears wary of relying on world food markets. However, China does currently utilize import markets for some agricultural products and non-staple grains, an issue of importance given China’s projected consumption of meat and fuel. While China currently meets its 95% self-sufficiency target for staple or cereal grains, its self-sufficiency is only 88% when soybeans are included in the measure and, in fact, has a “soybean import dependency ratio” of 78.14 (see Appendix 6); soybeans are used heavily as feed in the expanding livestock industry, and imports may rise from 58 million tons in 2010 to 90 million tons by 2030.\textsuperscript{121,122}

Further, China’s corn imports for livestock feed and biofuels are expected to increase from 3 million tons in 2012-2013 to 19.6 million tons in 2020, making China the world’s largest corn importer.\textsuperscript{123} Additionally, China is the “world’s largest importer” of oilseed and imports a variety of other agricultural commodities that compete for limited farmland with staple grains such as wheat and rice.\textsuperscript{124,125}

\textit{China – Food Security Responses: Self-Sufficiency Strategy}

China is confronting a dilemma. The country faces rising food demand, limits on agricultural supply, a need to import non-staple crops (soy, oilseed, etc.) due to growth and urbanization, and a desire for self-sufficiency in staple crops. Moreover, it is wary of global agricultural import markets and potential price volatility. In light of these concerns,

\textsuperscript{120} Catherine Hornby, "UPDATE 2-Potential grows for food crisis as prices surge-UN," \textit{Reuters}, August 9, 2012.
\textsuperscript{121} The Economist, "Feeding 1.36 billion people: Daily bread," \textit{The Economist}, October 26, 2013: 1.
\textsuperscript{123} Emiko Terazono, "China sees rising appetite for corn imports," \textit{Financial Times}, September 11, 2013.
\textsuperscript{124} Terazono, "China sees rising appetite for corn imports.”
China has developed a robust food security strategy, including the pursuit of overseas agriculture.

In response to its food security concerns and the Food Crisis, the Chinese government established the “National food security and long-term planning framework (2008-2020),” which addresses the challenges of rising consumer demand growth, decreasing arable land, water scarcity concerns, regional supply and demand, import dependence, grain yields, and global demand and supply disparities. To overcome these challenges, the plan sets four main objectives: improve grain productive capacity to reach 540 billion kg of grain by 2020 (from 500 billion kg in 2010), maintain the 95% food self-sufficiency rate, ensure a minimum of 120,000,000 ha of arable land by 2020, provide a secure level of grain reserves containing at least 70% wheat and rice, and improve grain distribution logistics. The plan offers six methods for achieving these objectives (paraphrased from translations):

1. Increase food production capacity through protecting land and water resources, strengthening agricultural infrastructure, and improving crop yields through technological innovation.
2. Encourage the production of non-grain resources such as grass for livestock consumption, aquaculture and fishing, and biofuel crop production.
3. Strengthen international cooperation in agriculture, for example through domestic enterprises taking advantage of China’s ‘going out’ strategy and investing abroad.
4. Improve the food distribution system in China by strengthening the market and intermediary organizations between farm production and cities.
5. Improve the grain reserve and storage system to ensure national food supply during emergencies, to protect interests of farmers, and to solve regional supply imbalances.

6. Improve the food processing system.\textsuperscript{128,129}

The key principle underlying each element of China’s food security strategy is self-sufficient food stability; according to Baldwin and Bonarriva, China’s “domestic agricultural policy and trade policy” is built to realize “three overarching goals: stability of supplies, stability of prices, and stability of farmer incomes” with a preference for “domestic production if possible.”\textsuperscript{130} Thus, in addition to the above initiatives, China subsidizes “farmers involved in grain production” to encourage domestic agricultural employment and production.\textsuperscript{131} China also uses trade restrictions, including “tariff rate quotas” and nontariff measures such as “bans on U.S. beef,” to limit the “flow of imported agricultural goods.”\textsuperscript{132}

However, to lessen trade barrier risks on unavoidable imports, following its goal of agricultural “cooperation,” China has initiated several free trade agreements (FTAs); it has established FTAs with the Association of Southeast Asian Nations (ASEAN), Pakistan, Chile, New Zealand, Singapore, Peru, Costa Rica, Iceland, and Switzerland, and is considering or negotiating FTAs with the Gulf Cooperation Council (GCC), Australia, Norway, India, Korea, and Japan.\textsuperscript{133} These FTAs often have a strong agricultural element, such as the “early harvest program…[requiring] all parties to

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\textsuperscript{130} Liao, "China's Food Security," 107.
\textsuperscript{131} Baldwin and Bonarriva, "Feeding the Dragon and the Elephant," 9.
\textsuperscript{132} Baldwin and Bonarriva, "Feeding the Dragon and the Elephant," 12-15.
\end{thebibliography}
eliminate tariffs on eight categories of agricultural products” and to “[reduce] tariffs on such goods as sugar” and others “to less than 20%.”134

China – Food Security Responses: Large-Scale Land Acquisitions

It is against the backdrop of a push for self-sufficiency coupled with rising demand for imported products that China has selected a LSLA food security strategy. China’s overseas agriculture strategy is derived primarily from two sources, the “Go Global” strategy to encourage overseas investment by domestic enterprises and the “National food security and long-term planning framework (2008-2020),” in which China promotes “international cooperation” in agriculture.135 China’s “Go Global” strategy was adopted in 2001 as the “first major drive by the government to encourage [domestic] investors to go abroad,” which removed “legal and administrative barriers” and created “generous incentives” for Chinese companies.136 This strategy is referenced initially in the food security “framework” plan and is further clarified by the “Implementing Opinions on Encouraging and Guiding Private Enterprises to Make Active Investment Abroad,” issued in 2012, which includes agriculture as a key industry in which “private enterprises are encouraged to invest abroad.”137

China’s overseas agriculture investment essentially takes two forms, which tend to overlap. First, Chinese private companies invest in “agricultural production” abroad such as “through joint ventures and contract farming as a way to bypass the dominance of

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136 Smaller, Wei, and Yalan, Farmland and Water: China invests abroad, 4.
137 Winston & Strawn LLP, PRC issues guidelines to encourage private enterprises to invest abroad (Translation of Implementing Opinions on Encouraging and Guiding Private Enterprises to Make Active Investment Abroad), Beijing, August 23, 2012.
U.S. and European agribusiness traders.”138 This includes, for example, production of soybeans in Latin America, given China’s growing demand; one example of this, according to the International Institute for Sustainable Development (IISD), is “in 2011 a mix of four private and state-owned Chinese enterprises were negotiating a US$7 billion agreement…to produce 6 million tons of soybeans a year for export to China.”139 This type of investment directly corresponds with the “Go Global” strategy discussed previously. The second method by which China invests in agriculture involves state-sponsored investments in “land and water resources,” which can range from “aid and development cooperation” to “contract farming and joint ventures,” “technology demonstration,” and technological investment.140 According to Xinhua, China plans or has developed “more than 20 agricultural technology demonstration centers around the world, and will double the number of experts to be dispatched overseas;”141 such plans are valuable because, in China’s view, “the seed planted to feed the Chinese is also likely to feed people in other developing countries.”142

Regarding the scope of Chinese investment, numeric estimates vary, but investment content estimates are largely similar. The Land Matrix estimates 975,824 hectares of deals for agricultural purposes involving 68 overall contracts, in locations ranging from Latin America to Africa and Southeast Asia (see Appendix 1).143 Additionally, with only seven exceptions, each contract includes a corporate investor, although many of these may have ties to the Chinese state such as the “Shaanxi Land

138 Smaller, Wei, and Yalan, Farmland and Water: China invests abroad, 5.
139 Smaller, Wei, and Yalan, Farmland and Water: China invests abroad, 6.
140 Smaller, Wei, and Yalan, Farmland and Water: China invests abroad, 6, 17.
141 Xinhua, "From self-sufficiency to grain contribution, China's agriculture passes 60 memorable years,” Xinhuanet, August 26, 2009: 3.
142 Xinhua, "From self-sufficiency to grain contribution, China's agriculture passes 60 memorable years,” 3.
Reclamation General Corporation,” “China National Corp for Overseas Economic Coop
Laostar Development,” or the “China National Complete Plant Import & Export
Corporation.” In contrast, the IISD estimates include “54 projects covering 4.8 million
hectares,” in locations ranging from Southeast Asia to Africa, Latin America, and the
Former Soviet Union. Similarly, with three exceptions, every investment included a
corporate investor, albeit with potential ties to the Chinese state.

South Korea – Food Security Concerns

South Korea also faces substantial food security challenges. As with China, South
Korea’s domestic food security concerns can be divided into demand and supply factors.

Population-wise, Korea is the 26th most populous nation, with 50,004,000 people
as of 2012. Its population is expected to peak at 51,664,000 by 2030, a trend which
will require the production of food for an additional 1.66 million people. Additionally,
South Korea is “one of the fastest industrializing countries in the world;” according to
the World Bank, Korea’s urban population is expected to grow from its current 2012
level of 41,737,638, 83.5% of the population, to 44,032,000 by 2030, equivalent to 87.1%
of the population. Although Korea’s gross urban population will peak in 2030, it is
expected to grow in percentage terms through 2050 to 89.6% of the population.

144 Land Matrix, Get the Detail: China.
145 Smaller, Wei, and Yalan, Farmland and Water: China invests abroad, 1.
146 Smaller, Wei, and Yalan, Farmland and Water: China invests abroad, 15-27.
Given such trends, Korean diets will likely shift. According to Korean National Statistics, these trends have already established themselves over the past 20 years; over this period, rice consumption has declined while meat consumption has risen.\textsuperscript{152} In 1990, daily per capita rice consumption was 327.6 grams and beef, chicken, and pork consumption was 11.2 grams, 32.3 grams, and 11.0 grams, respectively; in 2010, daily per capita rice consumption was 199.6 grams and beef, chicken, and pork consumption was 24.1 grams, 52.9 grams, and 29.3 grams, respectively.\textsuperscript{153} According to the U.S. Department of Agriculture (USDA), “recent trends” affecting Korean demand for food imports include the “globalization and Westernization of tastes,” “the high percentage of younger consumers with a growing taste for imported foods,” “an increasing number of working women and two income families who demand more convenience foods,” “the decline in per capita consumption of rice and the moving away from rice-based foods to wheat, corn, meat, and potato-based foods,” and “the spread of conventional ovens, microwaves, and refrigerators.”\textsuperscript{154} If such trends continue, they will place upward pressure on food demand.

Given that Korea has experienced 50 years of economic growth and urbanization, many dietary shift trends are already well established since demand for animal products tends rise with “income growth especially in low income regions.”\textsuperscript{155} As stated by the CIA World Factbook, “in the 1960s, [Korean] GDP per capita was comparable with levels in the poorer countries of Africa and Asia… and [Korea] is currently the world's


\textsuperscript{153} Statistics Korea, \textit{Social Indicators in 2011}.


\textsuperscript{155} Uwe A. Schneider et al., "Impacts of population growth, economic development, and technical change on global food production and consumption," \textit{Agricultural Systems} 104, no. 2 (February 2011): 204.
Due to this growth, “increased demands for dairy and meat among an increasingly affluent population encouraged farmers to invest in livestock production,” hence requiring “feed imports.” Thus, for corn and soybeans, “the primary sources of feed for animal production,” demand has “risen steadily in the past 30 years with dramatic increases of meat demand.”

Biofuels also drive agricultural demand. Korea is the tenth largest energy consumer, has few domestic energy sources, and is pursuing reduced greenhouse gas emissions, hoping to cut “emissions by 4 percent by 2020 compared to 2005 levels.” Hence, Korea has raised its biofuel production, which usually requires corn for ethanol or oils (vegetable oil or used cooking oil) for biodiesel feedstock, from 200 barrels per day (B/D) in 2005 to 6,300 B/D in 2011. These trends may raise agricultural import demand, since in 2009 Korea used “300,000 kiloliters of biodiesel feedstock” of which “75-80 percent was imported soy and palm oil, while the remainder was mainly domestic recycled cooking oil.”

Korea also faces supply-based food security challenges. Korea has only 1,492,000 ha of arable land as of 2011, an amount that has been falling since 2000 from 1,718,000 ha. Further, Korea’s arable land per person amounts to only .029 ha per person.
Moreover, Korea’s grain crop yields have risen slightly over time, but have been relatively volatile; according to the World Bank, Korea’s kilogram per ha yield was 6,496.7 in 2004, down to 6,109.3 in 2007, up to 7,265.0 in 2009, back down to 6,539.2 in 2010, and then 7,114.3 in 2012 (compared with China, which in 2004 had a yield of 5,186.7 kg per ha, 5,447.5 kg in 2009, 5,526.7 in 2010, and 5,837.5 in 2012).\(^{165}\)

Lastly, South Korea’s agricultural labor force and production capacity have decreased over time as the nation industrialized. In terms of the agricultural labor force, “the percentage of farmers in the total population has reduced from 50 percent in the 1970s to 7 percent (or below) in the 2010s.”\(^ {166}\) Moreover, according to the U.S. Department of Agriculture, as the nation “became increasingly industrialized and labor costs rose, South Korean agriculture abandoned production of many crops, such as wheat, millet, sorghum, and cotton.”\(^ {167}\) Therefore, in light of the above factors, South Korea has severely limited resources from which to produce crops domestically.

_South Korea – Food Security Responses: Imports and Self-Sufficiency_

Given its food security conditions and lack of agricultural resources, Korea must rely on global markets. For cereal grains, as of “2007-09” (the most recent FAO data) Korea had a “cereal import dependency ratio” of 73.2, calculated as “Cereal imports/(cereal production + cereal import - cereal export)” (see Appendix 6 for comparison with other states).\(^ {168}\) Korea is Asia’s “second biggest grain buyer” and the

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\(^{164}\) The World Bank, _Data - Arable Land_.

\(^{165}\) The World Bank, _Data - Arable Land_.

\(^{166}\) Yoon, Song, and Lee, “The Struggle for Food Sovereignty in South Korea,” 56.


world’s “second-largest importer of corn.”\textsuperscript{169,170} In addition, to support its “livestock, flour milling, and export-oriented industries of textile, garment, and leather goods,” Korea imports “large quantities of feed grains, soybeans, wheat, cotton, and hides.”\textsuperscript{171} Overall, Korea depends on imports for approximately “60-70 percent” of its food needs (and some estimates are as high as 90 percent).\textsuperscript{172,173}

Although Korea does rely on imports for its food supply, it is wary of international import markets and “has tried for more than four decades to strengthen its own agricultural production and avoid imports.”\textsuperscript{174} The two primary objectives of Korea’s “agricultural policy are self-sufficiency and parity between farm and urban household incomes,” and it has used “direct payments and import barriers” to realize these objectives.\textsuperscript{175} Although Korea’s self-sufficiency rates in “wheat, corn, and soybeans” are low at “0.5 percent, 1 percent, and 8.4 percent, respectively,” and overall grain self-sufficiency stands at “26.7 percent,” the nation strives “to attain rice self-sufficiency.”\textsuperscript{176,177} Further, South Korea has asserted that the country “aims to almost double its grain self-sufficiency ratio to 50 percent by 2030.”\textsuperscript{178}

Korea’s desire for self-sufficiency seems primarily driven by fear of price volatility in the global market, given the country’s reliance on imports. Historically, Korea sustained a model of “subordination of agriculture and food policy to industrial

\textsuperscript{171} United States Department of Agriculture Economic Research Service, \textit{South Korea}.
\textsuperscript{172} U.S. Agricultural Trade Office Korea, \textit{General Overview of the Market}.
\textsuperscript{173} Asia Sentinel, "South Korea's Food Security Alarm," \textit{Asia Sentinel}, April 29, 2011.
\textsuperscript{174} United States Department of Agriculture Economic Research Service, \textit{South Korea}.
\textsuperscript{175} United States Department of Agriculture Economic Research Service, \textit{South Korea}.
\textsuperscript{177} United States Department of Agriculture Economic Research Service, \textit{South Korea}.
\textsuperscript{178} Sungwoo Park and Sangim Han, "Korea to Encourage Companies to Farm Abroad to Ensure Supplies," \textit{Bloomberg}, April 2, 2009.
development policy…as long as food could be acquired cheaply overseas.”

However, as illustrated sharply by the Food Crisis, “the world’s food supply is currently in transition from an era of persistent surpluses to one of chronic shortages and imbalances.” According to the Samsung Economic Research Institute (SERI), Korean food imports will face a “global population [projected] to reach 9.1 billion by 2050,” causing “global demand for food [to] rise to 3 billion tons;” this demand will require “food production [to] increase by over 70 percent.”

These challenges are exacerbated by fears of food “weaponization” through protectionist measures and by the grain import market’s structure. According to SERI, “with food producing countries hinting at ‘weaponizing’ food through export restrictions, it is now increasingly likely that food security among importing countries will be threatened.”

To exemplify this possibility, SERI cites “Russia and Ukraine,” which in 2010 “imposed restrictive measures on grain exports” as “anxiety over food supplies grew intense.” Moreover, the global grain market structure is a concern; given that “trading volumes are small in comparison to production volumes” and since the market has a “low ability to rapidly ramp up production to meet external demand,” “supply shortages” may occur. Such conditions are not helped by the fact that the “[world] grain market is subject to an oligopoly” of four firms through which “Korea brought in 72.9% of its total import volume” or that Korean “grain buyers usually purchase on an as-

179 Lee and Müller, South Korean External Strategy Qualms, 18.
needed basis at a fixed price through lowest-price public bids, rather than using the grain futures market or long-term supply contracts” to mitigate price risk.185

Due to Korea’s wary import dependence, it has pursued several strategies to secure access to food products. One key strategy involves enacting FTAs which “can promote food security by augmenting Korean food supply” by minimizing or eliminating tariffs on or “weaponization” of agricultural imports.186 Currently, Korea has FTAs with Chile, Singapore, European FTA nations, ASEAN, India, the European Union, Peru, and the U.S. 187 Further, the nation is planning FTAs with Turkey and Colombia, and negotiating FTAs with Canada, Mexico, the GCC, Australia, New Zealand, China, Vietnam, Indonesia, and Japan.188

Korea has employed many additional strategies to secure food access. It has developed food reserves, for example the “ASEAN Plus Three Emergency Rice Reserve,” a regional reserve with ASEAN nations, China, and Japan, to make “rice available during emergencies, stabilising the price of rice and improving farmers’ income and welfare.”189 It has also created domestic reserves, such as the “Public Food Grain Stockholding Program” through which the “government will purchase domestic paddy rice during the harvest season (October-December) at the average market price and sell it during the

188 Ministry of Foreign Affairs - Republic of Korea, FTA Status of ROK.
189 Sally Trethewie, "Is the ASEAN Plus Three Emergency Rice Reserve (APTEERR) the Answer to Southeast Asia's Food Security Challenges," NTS Alert (S. Rajaratnam School of International Studies), February 2013.
non-harvest periods at the prevailing domestic market price.”\textsuperscript{190} As of 2013, the program also allows “the government to purchase wheat and soybeans.”\textsuperscript{191} Furthermore, Korea subsidizes its rice farmers, paying “600,000 won per hectare (about $600 per hectare) each year,” and “[85%] of the difference” if the price of rice “falls below a target fixed in advance.”\textsuperscript{192} Lastly, Korea plans to invest “24.1 trillion won (54 trillion won including tax credits)” between 2008 and 2017 to “support the modernization of agricultural equipment and help find new growth engines through R&D and the seed industry.”\textsuperscript{193}

\textit{South Korea – Food Security Responses: Large-Scale Land Acquisitions}

Given that Korea’s “grain self-sufficiency is very low and there’s limited room to boost production at home,” the nation has also established a substantial overseas agricultural development program to “ensure stable supplies.”\textsuperscript{194} Korea’s LSLA program was largely initiated in the wake of the Global Food Crisis, after which South Korea “developed a 10-year plan” to “[assist] companies to farm abroad.”\textsuperscript{195} This plan was developed in June 2008 primarily “to provide a framework for supporting overseas agricultural development” and consisted of two major goals: “1. Establishment of overseas trading companies who can secure commodities and stabilize prices through the futures market and 2. Support overseas agricultural production, processing and

\textsuperscript{191} United States Department of Agriculture Foreign Agricultural Service, \textit{Korea - Republic Of: Grain and Feed Update}, 2.  
\textsuperscript{192} United States Department of Agriculture Economic Research Service, \textit{South Korea}.  
\textsuperscript{193} Business Korea, "Agriculture and Food Policy - Trying to Realize Sustainable, Cutting Edge Industrialization,” \textit{Business Korea}, July 29, 2013.  
\textsuperscript{194} Sungwoo Park, "S. Korea to Increase Overseas Farming on Record Food Costs," \textit{Bloomberg}, March 10, 2011.  
\textsuperscript{195} Park, "S. Korea to Increase Overseas Farming on Record Food Costs."
In 2012, the plan was updated and codified in law in the “Overseas Agricultural Development Promotion Act.”197

Regarding the first goal, Korea has attempted to “correct” its current process of purchasing food via major grain-trading firms on an “as-needed basis at a fixed price.”198 It has done so by forming its own “grain trading firm in Chicago for direct importation,” called aT Grain Co., which can purchase grain on the futures market of the Chicago Board of Trade, “the single most important exchange for trading in agricultural commodities in the world.”199,200 This firm, “established by the state-run Korea Agro-Fisheries Trade Corp” with a group of private companies, plans to supply “30% of Korea’s grain needs.”201 The government intends to develop similar firms in “Brazil, Russia and Ukraine.”202

The second goal of the overseas development plan is, essentially, Korea’s LSLA strategy. Through this objective, according to Vice Minister of Agriculture, Food and Rural Affairs, Yeo In-Hong, Korea plans “to secure 35% of domestic grain consumption” by 2021.203 Under the plan, the government supports “private business’ entry into the development of overseas agriculture through loans, investment research, information, and training.”204 These agricultural projects are conducted mainly through private Korean corporations, aided by the state-run “Korean Rural Community Corporation” through the

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199 Shin, "Korea strives for agricultural security."
201 Lee and Müller, *South Korean External Strategy Qualms*, 20.
203 Business Korea, “Agriculture and Food Policy - Trying to Realize Sustainable, Cutting Edge Industrialization.”
204 Lee and Müller, *South Korean External Strategy Qualms*, 22.
“Overseas Agricultural Development Service” program.\textsuperscript{205} This program provides “overseas agricultural development” loans to companies wishing to invest in agriculture abroad at 2-3\% interest rates “repayable over 10 years with a 5 year grace period,” but requires “crops [to be] available to the Korean government in case of food shortages or crisis.”\textsuperscript{206} Although beyond the scope of this chapter’s analysis of food security LSLAs, Korea has also initiated similar programs for resource development in energy, minerals, fishery, and forestry.\textsuperscript{207}

In terms of Korean LSLA scope, numeric estimates again vary. According to Vice Minister Yeo In-Hong, the overseas agriculture program raised “the number of companies that entered overseas markets…from 35 in 2009 to 106 in 2012;” this growth increased “grain secured abroad” from “24,700 tons in 2009 to 218,000 tons in 2012.”\textsuperscript{208} Moreover, according to an analysis of reports by the Korean Ministry of Food, Agriculture, Forestry and Fisheries (now the Ministry of Food, Agriculture, and Rural Affairs), as of 2011 this program had led to “85 projects in 20 different countries,” comprising “42,300 hectares.”\textsuperscript{209}

According to the Land Matrix, however, Korean LSLAs involve 17 different agricultural deals (forestry excluded) comprising 998,422 ha (see Appendix 2); this includes a 2009 690,000 ha deal with Sudan (the veracity of which is questioned by government data and the Lee and Müller study, which states, “only one investment case in Africa has been reported yet,” a failed attempt by the company Daewoo to acquire half

\textsuperscript{205} Lee and Müller, \textit{South Korean External Strategy Qualms}, 23.
\textsuperscript{206} Lee and Müller, \textit{South Korean External Strategy Qualms}, 23.
\textsuperscript{207} Korean Rural Economic Institute, \textit{Agriculture in Korea}, KREI Report, Seoul: Korean Economic Research Institute, 2010, 446.
\textsuperscript{208} Business Korea, “Agriculture and Food Policy - Trying to Realize Sustainable, Cutting Edge Industrialization.”
\textsuperscript{209} Lee and Müller, \textit{South Korean External Strategy Qualms}, 22.
of Madagascar’s arable land). Moreover, only the Sudan deal involves direct acquisition by the Korean state; the rest are conducted via private enterprises and one “unknown investor.” Regardless of which estimates are correct, it appears that Korean LSLAs primarily involve private enterprises sponsored by the state to ensure access to food (and other) resources.

**Discussion**

Despite their differences, China and South Korea share many parallels regarding food security concerns and responses, and both seem to use LSLAs for comparable reasons and in a similar manner. Thus, based on this chapter’s hypothesis, these similar conditions do appear to motivate the selection of LSLA food security strategies. This section analyzes the similarities between Chinese and Korean food security concerns and strategies, as described in the Results section, that contribute to a LSLA strategy.

*Food Security Concerns*

Regarding food security concerns, both China and South Korea face drastically increasing and changing demand for food supplies. Both nations have growing and rapidly urbanizing populations, expected to peak between 2025 and 2030, which will require expanded food production. Further, both have populations that either have, or currently are, shifting their diets away from traditional staple grains to meat and dairy products, increasing demand for grains used in animal feed. Moreover, both nations have invested in biofuel production, raising demand for feedstock products such as corn for bioethanol or oils for biodiesel. If these trends continue, demand for many grains and

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210 Lee and Müller, *South Korean External Strategy Qualms*, 22.
212 Land Matrix, *Get the Detail: Republic of Korea*. 

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agricultural products in both countries can be projected to increase dramatically in
coming years.

These projected increases in agricultural product demand are coupled, in both
China and South Korea, with a limited supply base from which to produce these products.
Both states possess minimal levels of arable land compared with the size of their
populations, far below the world’s average of .2 ha per person.213 Further, arable land
levels in both states are decreasing, due in part to urbanization and industrialization.
While crop yields have risen in both nations over the last decade, research suggests that
yields could level off as gains from technological innovation diminish.214,215 Lastly, both
face a dwindling agricultural labor force from which to produce needed crops due to
demographic and urbanization trends.

Food Security Responses

In response to these similar concerns, both China and Korea have selected
strikingly similar strategies to address their food security challenges. The core of these
strategies, for both nations, appears based on a fundamental “wariness” of world import
markets. Many of the shared strategies therefore, appear to be an attempt to satisfy rising
demand for agricultural products while minimizing the danger of import dependence.

China and South Korea both rely on world import markets for certain products;
although China tends to depend less on agricultural imports due to its ambitious cereals
self-sufficiency target (see Appendix 6), both countries appear to share profound
concerns about future dependency regardless of their “absolute” import reliance.

Vulnerabilities to import markets in both countries were highlighted initially by the

213 The World Bank, *Data - Arable Land.*
214 Sparks, "Large Scale Land Acquisitions in Sub-Saharan Africa: The New Scramble," 687.
215 Eccleston, "Peak Food?" 11.
volatility of international food prices experienced during the Global Food Crisis. However, both fear that these vulnerabilities could be worsened by projected future disparities between world food demand and supply, coupled with the oligopolistic structure of the world grain market and the possibility of export restrictions or “food weaponization” by food-producing nations.216 The “trigger event” of the Global Food Crisis appears to have prompted a change in attitudes towards food in both nations, such that both view the world food market as shifting from an “era of persistent surpluses to one of chronic shortages and imbalances.”217

In response to these concerns about global agricultural import markets, both China and South Korea have employed similar food security strategies. These strategies promote domestic agricultural self-sufficiency while reducing the dangers of necessary imports. Both countries have enacted national targets for “self-sufficiency” in grain and specific agricultural commodities, requiring that a certain percentage of these commodities be produced domestically. Further, both have made efforts to subsidize farm production, raise farmers’ incomes, create protectionist trade restrictions, develop reserves, and invest in agricultural infrastructure and technology. Lastly, both countries have worked towards international cooperation, such as through FTAs, to minimize the danger of importing commodities impossible to produce domestically.

**Large-Scale Land Acquisitions**

In light of the comparable food security strategies implemented to address parallel concerns, both China and South Korea have implemented remarkably similar large-scale land acquisition strategies. Both nations utilize LSLAs to secure access to agricultural

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resources in foreign nations; both also do so through state-sponsored efforts that nevertheless keep the government at arms’ length. In most cases, private or state-run corporations play the major role in acquiring farmland and agricultural resources abroad, sponsored or encouraged by the government. These projects are also usually categorized using “soft” terms such as overseas “development” or “aid,” creating a sense of mutual benefit for investor and target nations.

Governments may distance themselves from land deals for several reasons, including political ramifications and costs. As discussed in the Literature Review, many scholars describe negative effects of “land-grabs” on host nation inhabitants. Further, LSLAs can have significant political impacts within target nations; for example, an attempt by the South Korean company Daewoo Logistics to lease “1.3 million hectares in Madagascar,” about half of the country’s arable land, resulted in “riots and overthrowing of the Madagascan government.”218 While LSLAs’ political ramifications are beyond the scope of this analysis, China and Korea are likely keeping their land investments at arm’s length to distance themselves from negative outcomes while still reaping the food security benefits. Moreover, given that domestic companies mostly purchase the LSLAs, albeit with state subsidization, such a strategy may be a cheaper alternative for governments than direct investment.

Analysis

This chapter hypothesized that those nations utilizing LSLAs as a food security strategy share many characteristics, specifically regarding their food security concerns and response strategies. Further, it hypothesized that LSLAs would play a supporting role in an overall food security strategy, which would be similar among countries utilizing

LSLAs for food security. To test this hypothesis, it analyzed two countries, China and South Korea, which both employ LSLAs but have substantial differences in factors ranging from population and size to political systems and national borders. This chapter postulated that areas of overlap between these countries regarding food security should provide insights into the national factors that lead to the selection of LSLAs as a food security strategy.

Based on the results of this research, it appears that countries sharing the LSLA strategy also share similar food security concerns and response approaches, specifically in the case studies of China and South Korea. Both countries face projected food demand increases coupled with limits to domestic productive capacity. Further, both are wary of global food import markets and consequently have specific goals and policies to raise domestic agricultural production. These countries rely on imports, when necessary, but have devised methods for circumventing market pitfalls, such as international cooperation and FTAs. Against this backdrop of national factor similarities, LSLAs appear to be a method of satisfying domestic demand while securing greater control over agricultural resource sources.

While further case studies are beyond this chapter’s scope, the food security similarities shared by China and South Korea contributing to a LSLA strategy can likely be generalized to other nations. Saudi Arabia, for example, which also uses LSLAs according to Land Matrix data, has until recently held a “longstanding strategy of achieving wheat self-sufficiency… since the early 1990s,” even given its agricultural constraints.219,220 Though Saudi Arabia began phasing out domestic cultivation efforts in

2008, it replaced these efforts with “financial incentives” for “Saudi investors” “to invest in foreign countries that have comparative advantage in producing certain crops” and to “re-export their products back to Saudi Arabia.” Given the number of states using LSLAs and the similarities among them as described in the Literature Review, future research could determine the extent to which this chapter’s findings can be generalized. Specific nations valuable to test, based on their use of LSLAs and focus on self-sufficiency, may be Saudi Arabia or India.

This chapter’s results demonstrate that its hypothesis is correct that there are specific national factors that may lead to the use of LSLAs as a food security strategy. Further, while many individual works within the literature are correct, to an extent, by describing investor countries as “capital-rich, natural-resource poor,” “heavily dependent on food imports,” and investing abroad due to the Global Food Crisis, these descriptions are only part of the picture; in reality, LSLAs are implemented due to longer-term concerns regarding imports and self-sufficiency that were only initially highlighted by the Global Food Crisis. This analysis contributes to the existing literature by describing and examining these and additional factors that may lead to the implementation of LSLAs for food security purposes, and by determining how such a tactic fits within an overall food security strategy.

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224 Robertson and Pinstrup-Andersen, “Global Land Acquisition: neo-colonialism or development opportunity?” 273.
225 Cotula and Vermeulen, "Deal or no deal: the outlook for agricultural land investment in Africa," 1235.
Finally, there are many areas of future potential research on the topic of LSLAs. Given that this chapter focused on comparing food security concerns and strategies of countries using LSLAs, additional analyses could examine other parallels’ contribution to LSLAs such as political, cultural, economic, or social factors. One specific factor noted in this chapter that could be tested is a nation’s level of economic “liberalness” and propensity for state intervention. Further, additional case studies such as Saudi Arabia could be studied to confirm if this chapter’s findings can be generalized to other nations. Lastly, scholars could investigate the political ramifications of LSLAs on either host or investor nations.

**Conclusion**

This chapter sought to identify what national factors contribute to the implementation of LSLAs as part of a food security strategy, and how LSLAs fit within an overall food security strategy among those countries utilizing LSLAs. It approached this question by comparing the food security concerns and responses of two significantly different countries that currently use LSLAs, China and South Korea.

By examining the areas of overlap between China and South Korea, this chapter determined that countries choosing LSLAs appear to be those facing both projected increases in demand for food as well as limitations on food production to match this demand. These countries may be dependent on imports to varying degrees but will likely share concerns about relying on import markets and will strive for self-sufficiency. They can be expected to share similar food security strategies in light of these factors, specifically to increase domestic agricultural production and to minimize the “dangers” of import dependence; LSLAs will tend to be a supporting element of this overall strategy.
Based on this analysis, other nations to which these findings could be generalized include Saudi Arabia and India.

The insights of this chapter are valuable because they add clarification to the academic literature both on food security and “land-grabbing” issues. Additionally, they help to further explain why a nation would select a specific food security strategy. Given that nations choosing LSLAs can be dissimilar in many characteristics, such an explanation could aid both the academic and policymaking communities in understanding why these dissimilar nations might choose similar policies. Further, given projected increases in world demand for food, these insights may prove valuable in predicting which nations might be most likely to use a LSLA strategy in the future and will at the very least help to explain their policy choice.
CHAPTER 2

Introduction

Food security is a critical national security concern, affected by myriad interrelated factors such as population growth, demographics, land area, and the environment. To ensure access to agricultural resources governments have developed a wide range of strategies, including colonialism, subsidizing domestic agriculture, trade protectionism, and economic integration. One such strategy, which has become prevalent in recent years, involves nations and national companies leasing or directly acquiring agricultural land abroad.

The first chapter examined the drivers of these acquisitions, called “large-scale land acquisitions;” it sought to determine if “investor” nations face specific food security conditions that contribute to their adoption of a LSLA food security strategy. Thus, it compared two seemingly dissimilar states that both use LSLAs, China and South Korea, and found numerous food security similarities between them that appear to lead to such a strategy.

Despite these parallels, further analysis is required to determine if these LSLA drivers apply generally, especially since a diverse range of nations use LSLAs.226 Although China and Korea are largely dissimilar, both are located in East Asia and, hence, share similar histories, cultures, security concerns, and economic interests; these regional factors may lead to similar food security concerns, objectives, responses, and strategies. Thus, examining only East Asian states may not isolate general motivations of LSLAs from regional drivers.

Therefore, this chapter seeks to “generalize” the first chapter’s findings by examining two additional nations that use LSLAs and are largely dissimilar, but that are outside East Asia, Saudi Arabia and India, to determine if the similar LSLA drivers found in China and Korea also exist in these states. In so doing, it seeks to establish whether states using LSLAs as a food security strategy, in general, share common traits motivating this strategy choice, thus confirming the explanatory power of the first chapter’s results. To test this hypothesis, it analyzes these countries’ food security concerns, objectives, and strategies, following the first chapter’s template, and then compares these food security conditions to the first chapter’s results. This chapter ultimately finds numerous parallels among all four states, indicating that the LSLA drivers found in the first chapter are general, not regional, trends.

**Literature Review**

The first chapter examined parallels in the food security conditions of China and Korea to determine if diverse nations that employ LSLAs share common motivations. While many similarities were found, it is possible that these parallels stem from specific East Asian factors and, thus, are not general beyond the region. To establish a foundation for testing the generalizability of the first chapter’s results, this section reviews causes of and responses to food scarcity from the first Literature Review. It then examines research on East Asian cultural, political, and economic traits that might result in similar food security strategies.

*Food Scarcity Causes and Responses*

Academic literature generally agrees that scarcity is caused by human demand and physical supply restrictions. As Homer-Dixon explains, “scarcity…is determined not
just by absolute physical limits, but also by preferences, beliefs, and norms;” Daoud similarly states, “scarcity…emerges in relation to human activity or social provisioning.” Hence, many scholars analyze the effects of “population factors” on food and resource scarcity.

These “population factors” primarily include population growth and demographics. In 1798, Malthus posited that since “population, when unchecked, increases in a geometrical ratio” and “subsistence increases only in an arithmetical ratio,” food scarcity provides “a strong and constantly operating check on population.” Although Malthus fails to consider agricultural productivity, he underscores the risks of population growth, providing a foundation for both neo-Malthusians such as Ehrlich and for scarcity scholars including Siegenbeek van Heukelom, Daoud, and Verpoorten. Demographics are cited as another cause of scarcity; as Naylor and Falcon explain, “a human population nearing 7 billion, coupled with increased incomes in many developing countries, has created greater demand for meat, vegetable oils, and other high-end food products.” Sparks and Gunasekera, Newth, and Finnigan reiterate this sentiment.

Environmental factors are also agreed upon as causes of scarcity, mainly by affecting resource supplies. Homer-Dixon cites human-based “environmental change”

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228 Daoud, "Robbins and Malthus on Scarcity, Abundance, and Sufficiency," 1207.
230 Eccleston, "Peak Food?" 10.
234 Verpoorten, "Leave none to claim the land: A Malthusian catastrophe in Rwanda?” 1.
236 Sparks, "Large Scale Land Acquisitions in Sub-Saharan Africa: The New Scramble," 687.
237 Gunasekera, Newth, and Finnigan, "Reconciling the Competing Demands in the Human-Earth System,” 299.
and “unequal distribution of resources” as causing scarcity, specifically for “renewable resources” such as “fresh water” and “fertile soils;” many of these factors are restated by other scholars including Spieldoch and Murphy and by Dike and Dike. In sum, population growth, demographic trends, and the environment are major drivers of food and resource scarcity.

States respond to food scarcity using many methods, in addition to LSLAs. Spieldoch and Murphy and Coluta depict colonization as one such response, to show LSLAs’ historical precedent; as Spieldoch and Murphy explain, “colonization of farmland by foreign settlers dates back thousands of years.” Incentive-based responses are championed by Ricardo, a 19th century critic of Malthus, who claims that population and scarcity are directly related; when food is limited, its price rises and people farm more or reproduce less. This argument underlies modern scarcity scholarship, such as by Hallam and by Robertson and Pinstrup-Andersen. Scarcity can also be mitigated by market-based methods, such as, according to Hallam, “regional food reserves, financial instruments to manage risk, bilateral agreements including counter-trade (barter arrangements), and the improvement of international food market information

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239 Spieldoch and Murphy, "Agricultural Land Acquisitions," 45-46.
241 Spieldoch and Murphy, "Agricultural Land Acquisitions," 40.
243 Spieldoch and Murphy, "Agricultural Land Acquisitions," 40.
244 Ricardo, The Principles of Political Economy & Taxation, 278.
245 Hallam, "International Investments in Agricultural Production," 33.
246 Robertson and Pinstrup-Andersen, "Global Land Acquisition: neo-colonialism or development opportunity?" 279.
Lastly, scholars such as Rosenberg support farming technology investment to combat scarcity.\textsuperscript{248}

\textit{Large-Scale Land Acquisitions}

LSLAs, defined as “negotiations on the part of governments and private firms looking to sign agreements that would confer ownership of, or long-term leases on, land abroad,” have become a popular food security strategy over the past half-decade.\textsuperscript{249} Often described as “land grabs,” LSLAs have sparked controversy over their scope and effects on host nations, although there is general agreement on the nations involved and the drivers of LSLAs.\textsuperscript{250}

Debate over LSLAs primarily concerns scale and effects on host nation populations. Cotula attributes debates over scale to the fact that “most of the estimates” are based on “media and research reports…and systematic national inventories based on official government records.”\textsuperscript{251} The former usually display larger estimates, whereas the latter “tend to be lower.”\textsuperscript{252} The “Land Matrix” has assembled a more rigorous database, which cross-references data from “international and local organisations and NGOs,” crowd-sourcing, field research, “government records,” “company websites,” and the media;\textsuperscript{253} it estimates that 35.6 million hectares, 137,627 square miles, have been included in LSLAs.\textsuperscript{254}

Narula describes the two central views regarding LSLAs’ effects on host nations, explaining, “proponents argue that these investments can support economic development

\textsuperscript{247} Hallam, "International Investments in Agricultural Production," 31.
\textsuperscript{248} Rosenberg, "Innovative Responses to Materials Shortages," 118.
\textsuperscript{249} Spieldoch and Murphy, "Agricultural Land Acquisitions," 39.
\textsuperscript{250} Cotula and Vermeulen, "Deal or no deal: the outlook for agricultural land investment in Africa," 1233.
\textsuperscript{252} Cotula, \textit{The Great African Land Grab? Agricultural Investments and the Global Food System}, 49, 42.
\textsuperscript{253} Land Matrix, \textit{About Land Matrix}.
\textsuperscript{254} Land Matrix, \textit{Land Matrix}. 

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in host states while boosting global food production,” however, “critics charge that these ‘land grabs’ disregard users’ rights and further marginalize already vulnerable groups.”255 Scholars such as Cotula and Vermeulen, Siegenbeek van Heukelom, Telesetsky, and Narula, recognize either outcome’s possibility and thus support methods to benefit locals.256,257,258,259

There is mostly consensus on the nations involved in LSLAs and the core drivers of LSLAs. According to Robertson and Pinstrup-Andersen, investors are typically “capital-rich, natural-resource poor Arab and East Asian governments and corporations.”260 Cotula and Vermeulen expand this view to include nations from Europe, Africa, and Southeast Asia.261 LSLA host nations are often those with “cheap and abundant farmland, particularly in Africa,” though also in Southeast Asia and within the Former Soviet Union.262,263,264

The drivers of LSLAs include the related factors of biofuels and food security.265,266 In recent years, demand for biofuels, feedstock crops, and related farmland has risen due to “biofuels support policies” and “demand for energy to fuel growth in emerging economies.”267,268 Regarding food security, LSLA demand has mainly come

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256 Cotula and Vermeulen, "Deal or no deal: the outlook for agricultural land investment in Africa," 1245.
258 Telesetsky, "Resource Conflicts over Arable Land in Food Insecure States," 291.
260 Robertson and Pinstrup-Andersen, "Global Land Acquisition: neo-colonialism or development opportunity?" 273.
261 Cotula and Vermeulen, "Deal or no deal: the outlook for agricultural land investment in Africa," 1235.
262 Robertson and Pinstrup-Andersen, "Global Land Acquisition: neo-colonialism or development opportunity?" 271.
263 Telesetsky, "Resource Conflicts over Arable Land in Food Insecure States," 285.
264 Atkin, "Investment in Farmland in Central and Eastern Europe and the Former Soviet Union," 110.
265 Spieldoch and Murphy, "Agricultural Land Acquisitions," 42.
267 Spieldoch and Murphy, "Agricultural Land Acquisitions," 43.
from “resource-poor but cash rich” nations, especially with “fast-growing populations,”
dependency on “international markets for their food supply,” as well as limited “arable
land” or “sufficient fresh water.” Both factors have been aggravated since,
according to Sparks and Eccleston, crop yields have been plateauing.

The most crucial LSLA driver noted in the literature is the Global Food Crisis of
2007-08, during which fuel (and hence biofuel) and food prices soared; as Naylor and
Falcon describe, “wheat, rice, maize, and petroleum” prices “tripled in real terms during
the first half of 2008.” The crisis was caused, according to Spieldoch and Murphy, by
“supply problems,” “protectionist moves” by producers, and biofuel demand;
Conceicao and Mendoza expand on these causes, including financial speculation, high oil
prices, and agricultural productivity. Thus, states are thought to use LSLAs “to secure
reliable food sources” and hedge against food price volatility.

Finally, while LSLAs have roots in colonialism, they are also unique; Margulis,
McKeon, and Borras Jr. portray LSLAs as “a unique world historical event that reveals a
nascent shift in the global political economy,” and as a “de-territorialization and
commodification of sovereign national territory.” Further, although LSLAs are
“facilitated by the institutions and practices of neo-liberal globalization,” they are often

270 Robertson and Pinstrup-Andersen, "Global Land Acquisition: neo-colonialism or development
opportunity?" 273.
271 Spieldoch and Murphy, "Agricultural Land Acquisitions," 41.
272 Sparks, "Large Scale Land Acquisitions in Sub-Saharan Africa: The New Scramble," 687.
273 Eccleston, "Peak Food?" 11.
275 Spieldoch and Murphy, "Agricultural Land Acquisitions," 42-43.
based on “security mercantilism” and “may have illiberal ends.”
Hence, nations seeking LSLAs may adhere to an “illiberal” economic outlook, while using or exploiting liberal institutions.

**East Asian Cultural and Economic Similarities**

The first chapter observed strong parallels between Chinese and South Korean food security conditions and strategies, suggesting that states using LSLAs share common drivers. However, these drivers may be based on factors specific to East Asia, and would thus not be general trends. This section explores academic research examining parallels in East Asian nations’ cultures, economics, and politics that may motivate similar food security strategies.

A key advocate of cultural traits specific to East Asia is Lee Kuan Yew, former prime minister of Singapore. According to Yew, “people develop different characteristics when they have evolved for thousands of years separately…particularly in their neurological development, and their cultural values.” He asserts that East Asia is “fortunate” to have a “cultural backdrop” of “thrift, hard work, filial piety, [family loyalty], and…respect for scholarship and learning.”

Yew’s emphasis on intrinsic “Asian values” is controversial; according to Jenco, “‘Asian Values’ discourse was…condemned for its instrumentalism and lack of cultural authenticity.”

Lew’s view of “Asian values,” albeit controversial, has stimulated considerable scholarly analysis. Thompson, for example, portrays “‘Asian values’ as a doctrine of developmentalism” claiming, “until prosperity is achieved, democracy remains an

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281 Yew, interview by Fareed Zakaria, *A Conversation with Lee Kuan Yew*.
unaffordable luxury.” He further explains, “although thoroughly discredited internationally, ‘Asian values’ face a more complex fate at the domestic level,” especially since “authoritarian advocates” can claim that “only a ‘disciplined’ (that is, authoritarian) regime” will “promote fast economic growth.” More recent scholarship has revived the debate; Parfitt and Wysocki argue that Asian values are not “intrinsic and unchanging” but “can be seen as influencing behaviours, which create outcomes.” They assert that the region “is characterised by values of community and social organisation together with hard work” and “Asian development reflects the influence of such values,” for example through “a much more economically activist role to the so-called developmental state.”

Finally, beyond “Asian values,” scholars suggest that history and culture distinctly contribute to East Asian geopolitics. Moore argues that “unresolved old security issues,” such as territorial or Cold War disputes, “daunting new security issues,” such as “rising China” and resource conflicts, growing “nationalism,” unsettled enmity with Japan, a “cultural proclivity for ‘face politics,’” and a “trust/social capital deficit” are “obstacles to greater Northeast Asian regional cooperation.” Overall, the literature implies that cultural or historical factors do, at the very least, influence the actions or perceptions of Asian nations.

There is also extensive literature on East Asian economic and political similarities. This research is embodied in the concept of an East Asian development model, often

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284 Thompson, "Whatever Happened to Asian Values," 155-56.
called the “Developmental State” (DS). Initial descriptions of such a model focused on parallels among Japan, Taiwan, and Korea; Kuznets portrays this model as involving “high investment ratios, small public sectors, export orientation, labor-market competition, and government intervention in economic matters.” More recent theorists expand on this definition; Stubbs proposes “four conditions...crucial to the formation of a DS in East Asia,” including “a weak society...unable to [resist]” a “strong state,” “ideas circulating within the society or region [promoting]...the DS,” and a DS-supporting “security” and “economic environment.”

China is often included in more recent analyses of East Asian models, albeit with some debate. As Stubbs explains, “China appears to have some relevance for discussions of...the DS” since “state authority structures in China appear to mirror the many types of DS...in the rest of East Asia.” Kim likewise asserts, “it seems to be now ‘generally accepted’ that the success of the East Asian tigers,” including “China as a tiger still waking up,” “was largely a result of the crucial role played by the state.” Similarly, Kwon and Kang propose an “East Asian model,” including China, based on three elements, “policy-augmented human capital,” “political stability,” and a claim that “democracy is not necessarily a precondition of economic growth.” In contrast, however, Hayashi depicts “serious obstacles to...the [DS] in China,” specifically “economic decentralization” and “the lack of coordination in policymaking...between

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central government and local government.” Harfitt and Wysocki support this view, arguing, “the Chinese state and the [DSs] of Asia have quite different origins and different approaches to governance.”

Regardless of whether China is considered a DS, most East Asian development scholars emphasize the state’s primacy in promoting economic growth. According to Harfitt and Wysocki, “neither [China nor East Asian DSs] conceive the economy as a field of conflict between individual entrepreneurs, regarding it as an area where state guidance is necessary.” Likewise, as described by Breslin while discussing Chinese development, “a strong state controlling economic activity…sounds somewhat familiar—not least to students of development in other parts of Asia.” Numerous additional scholars have echoed this view of East Asia’s propensity for state-led economic growth, including Kennedy, Hayashi, Kim, Stubbs, and Wong.

Scholars also tend to agree that East Asian states share similar resource security policies. As Lee explains, “energy relations in Northeast Asia [have] been essentially competitive, reflecting the region’s economic and geopolitical constraints;” he cites Cold War-based “political and security environments,” uncertain “political trust,”

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299 Hayashi, "The developmental state in the era of globalization,” 51.
300 Kim, "Rethinking Colonialism and the Origins of the Developmental State in East Asia," 384.
“historical antipathy” as well as “unilateral pursuit of energy supply and development.”  

Dent also describes this unilateralism, asserting, “energy diplomacy objectives of East Asian states are still predominantly subordinated to national interests rather than those of the regional or other multilateral collective.”  

Lastly, scholars often describe East Asian resource security goals as “mercantilist” or striving for “self-sufficiency.” As Dent explains, “due to the region’s developmental statist and socialist market traditions,” East Asian states tend to use “mercantilist approaches to energy diplomacy” such that they “seek to extend control…over foreign sources of energy.”  

Likewise, Wilson argues that the region “[shares] a strong mercantilist preference to import resources from nationally-controlled suppliers,” using “interventionist financial assistance policies to ensure their firms” can “compete with third parties,”  

East Asian nations will even “compromise broader reputational concerns in their quest for resource security.”  

He asserts that East Asia promotes “mercantilist self-reliance,” doubting “the liberal belief that international markets provide the best guarantee of resource security.”  

Barclay and Smith reiterate these points, depicting East Asia as trying “to maintain food self-sufficiency” and “[developing] infrastructure for resource extraction/production and transport in resource-extracting countries” for “purported [altruistic]” purposes.

311 Barclay and Smith, "Introduction: The International Politics of Resources," 126.
Shortcomings and Contributions

Most studies on LSLAs focus on “host” nations; scholars analyze the content and scope of LSLA deals, the benefits and costs to local populations, and LSLAs’ links to colonialism. However, the literature offers only a limited overview of investor nations’ motivations for seeking food security LSLAs. While the first chapter discovered common food security conditions driving LSLAs in China and Korea, the general nature of these drivers is called into question by the abundance of scholarship describing cultural, political, historical, and economic traits specific to East Asia. Thus, to generalize the first chapter’s observations and ensure that regional factors are not their cause, this chapter examines two additional case study nations outside East Asia that use LSLAs, Saudi Arabia and India.

Theory and Hypothesis

This chapter hypothesizes that the results from the first chapter, which found that China and South Korea share specific food security concerns and objectives contributing to their mutual use of a LSLA food security strategy, are generalizable among countries using LSLAs. More specifically, it postulates that states using food security LSLAs share common food security concerns and response strategies, regardless of region, culture, government, or location. Since the first chapter established common food security factors motivating LSLAs in East Asia, this chapter tests if states outside this region that use LSLAs share such factors.

As the Literature Review describes, East Asia shares many attributes, such as value systems, development models, histories, and resource security policies promoting self-sufficiency and mercantilism. These traits appear supportive of food security LSLAs;
hence, the similarities found between China and Korea motivating LSLAs could be due
to regional factors, instead of indicating a general trend. Thus, to test this chapter’s
hypothesis, this analysis examines the food security concerns, objectives, and strategies
of two states as case studies that are dissimilar, outside East Asia, and employ LSLAs,
Saudi Arabia and India.

The first chapter found common food security traits between two nominally
different states that both use LSLAs, China and Korea. Regarding food security concerns,
it found that both nations face drastically increasing and changing demand for food based
on population growth, urbanization, rising incomes, and biofuel investment, as well as
limits to agricultural production and supply based on low and decreasing arable land per
person, plateauing crop yields, and a dwindling agricultural labor force. In terms of food
security objectives, both rely on imports but are “wary” of this reliance, preferring self-
sufficiency; during the Global Food Crisis of 2007-08, both countries’ experiences
highlighted vulnerabilities to food imports, exacerbated by projected future disparities
between world food demand and supply, the oligopolistic world grain market structure,
and food-producing nations’ export restrictions. Lastly, both employ LSLA food security
strategies to secure food resources in foreign nations in a comparable manner, by
financially incenting private companies to invest in agriculture abroad; they also publicly
minimize the government’s role, classifying LSLAs as “development aid” and as helpful
to host nations. This chapter examines whether Saudi Arabia and India share these traits.

Methodology

As previously described, this chapter seeks to determine if the first chapter’s
findings are generalizable outside East Asia, among states using a LSLA food security
strategy. To do so, it investigates the food security conditions and strategies of Saudi Arabia and India to establish whether they are similar to those of the countries analyzed in the first chapter, China and South Korea; it also compares these countries’ LSLA implementation methods to confirm whether similar food security conditions, in general, result in similar LSLA strategies. Hence, this chapter first analyzes the food security concerns, objectives, strategies, and LSLAs of Saudi Arabia and India individually. It then compares these characteristics with those found in the first chapter to examine overlap, thus determining the extent to which these attributes are generalizable outside East Asia. If the results demonstrate significant parallels in these attributes among all four countries, then the drivers found to lead to similar LSLA strategies in the first chapter can be considered generalizable outside East Asia. If parallels cannot be found, then it is likely that the first chapter’s results are not general; thus, “East Asian” factors presumably explain these results. All key findings are as of May 2014.

Saudi Arabia and India have been selected for analysis because these nations are outside the East Asian region, are dissimilar from each other as well as China and Korea, and use LSLAs as a food security strategy. According to the CIA World Factbook, Saudi Arabia is a “Monarchy” located in the “Middle East,” with a population of 27,345,986, and a land area of 2,149,690 square kilometers.312 The Kingdom borders seven states, Iraq, Jordan, Kuwait, Oman, Qatar, the UAE, and Yemen.313 Economically, it has a GDP of $927.8 billion, a GDP growth rate of 3.6%, and a GDP per capita of $31,300, the 44th highest worldwide.314 India is a “Federal Republic,” regionally in “South Asia,” with a

population of 1,236,344,631 and land area of 3,287,263 square kilometers.\textsuperscript{315} It borders six states, Bangladesh, Bhutan, Burma, China, Nepal, and Pakistan.\textsuperscript{316} The country has a GDP of $4.962 trillion, a GDP growth rate of 3.8\%, and a GDP per capita of $4,000, the 168\textsuperscript{th} highest.\textsuperscript{317}

Saudi Arabia and India have also been selected as a representative sample of nations pursuing LSLAs as part of an overall food security strategy. As Appendix 5 shows, China, Korea, Saudi Arabia, and India are all among the top 15 states using LSLAs, making them key actors in the LSLA trend.\textsuperscript{318} Moreover, only food security LSLAs are within this study’s scope, not other types used by some “top 15” nations such as those based on “renewable fuel” or “investment opportunities” for firms and governments.\textsuperscript{319} Thus, each selected nation has been chosen based on its active use of LSLAs as a national food security strategy.

Based on these criteria, many nations have been excluded from analysis. European states must be excluded, since they “[lack] policies directly concerned with foreign land acquisition for agriculture.”\textsuperscript{320} Likewise, U.S. LSLAs are driven by “mainly private equity and hedge funds…financing agribusiness companies,” making them irrelevant for examining national food security LSLAs;\textsuperscript{321} this is also true for Canadian LSLAs, initiated primarily by “companies, universities, pension funds, banks and

\textsuperscript{316} U.S. Central Intelligence Agency, \textit{The World Factbook - India}.
\textsuperscript{317} U.S. Central Intelligence Agency, \textit{The World Factbook - India}.
\textsuperscript{319} Cotula and Vermeulen, “Deal or no deal: the outlook for agricultural land investment in Africa,” 1236.
\textsuperscript{320} Cotula and Vermeulen, “Deal or no deal: the outlook for agricultural land investment in Africa,” 1236.
insurance companies.” Similarly, South Africa does not appear to use food security LSLAs, as its investments usually involve “commercial farmers…negotiating access to farmland beyond national boundaries” to counter “growing barriers to accessing farmland at home.” Finally, other “top 15” countries such as Malaysia, Viet Nam, and Thailand, are unrepresentative, as their land deals are mainly for not food-specific crops.

Among “top 18” LSLA nations, those using food security LSLAs are China, Singapore, India, South Korea, Saudi Arabia, the UAE, and Japan. Outside the top 18, numerous other nations have pursued food security LSLAs, such as Qatar, Bangladesh, Kuwait, and Oman. Saudi Arabia and India, along with China and Korea, are illustrative of this group; they are major investors in LSLAs, exemplify the range of official “institutionalization” of LSLA food security strategies, and are

330 Robertson and Pinnstrup-Andersen, "Global Land Acquisition: neo-colonialism or development opportunity?" 273-274.
located in diverse regions. Thus, these four nations are valuable case studies to represent this group of states.

As noted in the previous chapter, one difficulty inherent in this study is data availability. This chapter examines the conditions and policies of multiple nations and, thus, the availability of information in each nation may not be uniform, especially if English-language sources vary. As in the first chapter, this chapter attempts to correct for any data limits; however, the specific sources used for each nation differ to some extent.

Finally, to clarify and reiterate definitions, food security concerns involve any major factors limiting national access to food. These can include demand factors, such as population or diet trends, or supply factors, including import conditions or endowments of land and water. Food security objectives involve national food security goals, indicated by policies or statements targeting production self-sufficiency, overseas investment, or food price stability. Food security strategies include any state-led response to food security concerns, such as imports, food reserve programs, trade agreements, or LSLAs. Lastly, LSLAs include any land deals conducted as part of a national effort to produce agricultural products abroad to enhance state food security and secure food resources, regardless of whether governments or companies are the “primary” investors.

**Results**

The first chapter’s results suggest that the similar food security conditions in China and Korea are key factors leading to the pursuit of LSLAs. However, to determine if these findings are generalizable beyond East Asia, this section examines the food security concerns, objectives, and strategies of two additional nations, Saudi Arabia and India; both use LSLAs, differ from each other as well as China and Korea, and are

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outside East Asia. This section describes food security traits motivating the choice of
LSLA strategies by both Saudi Arabia and India, and illustrates how LSLAs fit within
overarching national food security objectives.

_Saudi Arabia – Food Security Concerns_

As a desert nation, Saudi Arabia faces immense challenges in securing and
producing adequate food supplies. As with the previously analyzed nations, these
challenges contribute to Saudi Arabia’s selection of a LSLA food security strategy and
can be divided into two categories, demand and supply-based concerns.

Regarding demand-based concerns, one key issue for Saudi Arabia is population
growth. Saudi Arabia’s population “has grown from 5 million in 1970 to 26 million in
2010” and is currently “[growing] at a rate of 2.6% per annum.”

336 Although this total
population level is low compared to many countries, its growth rate is relatively high; for
comparison, according to World Bank data, the Saudi population growth rate outstrips
both China and Korea’s rate of 0.5% (even if this data notes only a “1.9%” Saudi growth
rate).337 The Saudi population is expected to reach 40.388 million people by 2050 and
peak at 41.253 million by 2061.338 These trends “will drive future growth in [food]
demand” and require securing food resources to support an additional 15 million people
over the next 40-50 years.339

Demographics also affect Saudi food demand. The nation “urbanized over a very
short timescale” and currently, “more than 80% of the population lives in urban areas;”

336 Farrelly & Mitchell, _Agri-Food Policy in the Kingdom of Saudi Arabia_, White Paper, Dublin: Farrelly &
Mitchell: Agri-Food Specialists, 2013, 2.
337 The World Bank, _Population Growth (annual %)_ , March 17, 2014,
%20wbapi_data_value-last&sort=asc.
338 United Nations Department of Economic and Social Affairs, _Saudi Arabia - Population by sex
339 Farrelly & Mitchell, _Agri-Food Policy in the Kingdom of Saudi Arabia_, 3.
increasing “at...2% per annum;” this trend is critical because “the urban population is
dependent upon the agri-food supply chain for all of its food requirements.” Further,
the median age is 26.4 and 46.9% of Saudis are under 25 (and 70 percent are younger
than 30), which affects food needs because “young Saudis are quick to adopt new dietary
trends,” and “the young population continues to grow at a rate that outpaces [food]
production.”

Additionally, Saudi GDP per capita is rising, from $10,854 in 2004 to $25,136 in
2012; since “middle and high income families” in Saudi Arabia tend to “substitute rice
with other higher value food items such as meat, vegetables and fruits,” demand for such
foods, as well as livestock feed, is expected to grow as incomes increase. Further,
due to a rising population and “higher disposable income,” an “increased number of retail
outlets” have led to “growth in the Saudi retail food sectors.” Lastly, expansions in
“workforce participation” and youth population are anticipated to raise “processed and
fast food industry” demand. These trends will cause major diet shifts, requiring more
food and livestock feed production.

Saudi Arabia also faces severe food supply constraints. Despite having a low
population relative to other nations, “only about 2 percent of the country’s enormous land

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mass is arable, even with extensive irrigation and farming technology.\textsuperscript{348} Consequently, Saudi Arabia has only 0.11 hectares of arable land per capita, which, while higher than China and Korea, is much less than the world average of 0.2 hectares per person.\textsuperscript{349} Moreover, according to the World Bank, the country’s arable land has been decreasing, from 3.5 million ha in 2004 to 3.11 in 2011.\textsuperscript{350}

Agricultural input limits also restrict production. Saudi land requires “major irrigation” to sustain agriculture; for example, Saudi wheat and barley crops are “100 percent irrigated.”\textsuperscript{351,352} Further, since the country has “no permanent rivers or lakes and very little rainfall,” it relies on “aquifers…vast underground sources of water;”\textsuperscript{353} as of 2008, “81% of [Saudi] water came from fossil aquifers,” which “[are] not renewable” via “rainfall or other sources,” unlike “shallow, alluvial/fluvial aquifers,” which can undergo “recharge events.”\textsuperscript{354,355} This reliance on “deep fossil aquifers” limits food production because Saudi “water is like the country’s oil – when it is used up, it is gone.”\textsuperscript{356,357} Hence, irrigation diminishes freshwater supplies, which must be supplemented by “desalinization,” “dams…to capture surface water after frequent flash floods,” and

\textsuperscript{348} Lippman, "Saudi Arabia's Quest for ‘Food Security’," 90.
\textsuperscript{350} The World Bank, \emph{World Bank DataBank - World Development Indicators}.
\textsuperscript{351} Dina Al-Kandari and David J. Jukes, "The food control system in Saudi Arabia - Centralizing food control activities," \emph{Food Control} 28 (2012): 35.
\textsuperscript{352} United States Department of Agriculture Foreign Agricultural Service, \emph{Saudi Arabia Grain and Feed Annual}, 5, 8.
\textsuperscript{354} Gregory McQuie, Yueh-ya Hsu, and David Thomas, "Sustainable Water Management for Saudi Arabia in 2025 and Beyond," \emph{The UMAP Journal} 34, no. 2 (2013): 174, 182, 172.
\textsuperscript{355} Thomas M. Missimer et al., "Restoration of Wadi Aquifers by Artificial Recharge with Treated Waste Water," \emph{Ground Water} 50, no. 4 (July-August 2012): 514-515.
\textsuperscript{356} McQuie, Hsu, and Thomas, "Sustainable Water Management for Saudi Arabia in 2025 and Beyond," 169.
\textsuperscript{357} Lippman, "Saudi Arabia's Quest for ‘Food Security’," 91.
“shallow aquifers” that can only be used “when there has been sufficient recharge to allow water use without fully depleting the resource or [changing] water quality.”\(^{358,359}\)

The government’s resultant “strong concern over the depletion of…non-renewable water reserves” has led to efforts to reduce wheat, barley, and “cattle feed” production.\(^{360,361}\)

Thus, “scarcity of water and fertile soil” creates “major [cultivation] constraints” at the same time that the country is facing food demand growth.\(^{362}\)

**Saudi Arabia – Food Security Responses: Imports and Self-Sufficiency**

Due to limited food security resources and rising food demand, Saudi Arabia relies on imports for “most of its food products (around 60% from over 150 countries).”\(^{363}\) Some estimates claim that Saudi reliance on imports is even greater; according to the USDA, “Saudi Arabia depends on imports to meet about 80 percent of its food needs” and, based on FAO data, the country has an “import dependency ratio” of 82.9 for cereals, 92.84 for “pulses,” and 107.56 for vegetable oils (suggesting the nation exports more than it produces, supplemented by imports) (see Appendix 6).\(^{364,365}\) This reliance is exacerbated by the fact that many “food industries” in Saudi Arabia “cannot function without…imported raw materials.”\(^{366}\) The nation is “the largest importer of agricultural products” in the GCC and its imports are expected to increase; the country’s

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\(^{359}\) Missimer et al., “Restoration of Wadi Aquifers by Artificial Recharge with Treated Waste Water,” 515.

\(^{360}\) United States Department of Agriculture Foreign Agricultural Service, *Saudi Arabia Grain and Feed Annual*, 5, 8.

\(^{361}\) Lippman, “Saudi Arabia's Quest for 'Food Security','" 91.

\(^{362}\) Al-Kandari and Jukes, "The food control system in Saudi Arabia - Centralizing food control activities,” 36.

\(^{363}\) Al-Kandari and Jukes, "The food control system in Saudi Arabia - Centralizing food control activities,” 35.


\(^{365}\) United Nations Food and Agriculture Organization, *FAOSTAT - Compare Data.*

\(^{366}\) Al-Kandari and Jukes, "The food control system in Saudi Arabia - Centralizing food control activities,” 35.
food product imports were $21.7 billion in 2012, and are “expected to exceed $35 billion annually by 2020.”\textsuperscript{367} Saudi 2011 barley imports “[accounted] for more than 40% of the annual barley trade,” its rice imports are “more than three times the level of China’s,” and its poultry imports are “only one-fifth less than the total poultry imports into the EU.”\textsuperscript{368}

Despite Saudi reliance on imports, the nation has historically been averse to import dependency for food. Starting in “the early 1990s” the country established a “longstanding strategy of achieving wheat self-sufficiency,” and ultimately attained “self-sufficiency in wheat and poultry,” as well as potatoes, eggs, milk, and dates, and “impressive harvests of figs, grapes, and citrus fruits, [and]…olive oil.”\textsuperscript{369,370,371} These efforts were meant largely “to reduce the dependence on oil and to encourage…development,” “reduce food import costs,” and to “provide employment,” thus “keeping village and farm populations in place.”\textsuperscript{372,373}

Saudi self-sufficiency efforts are also based on the country’s geopolitical history. During both World Wars, the Gulf “region was at the mercy of respective world powers for crucial food imports” and during “the 1970s, the US threatened to use the ‘food weapon’ in retaliation” to “the Arab oil boycott.”\textsuperscript{374} Although the U.S. did not execute its threat, “the mere threat of a food embargo was enough to worry Gulf policymakers,”

\textsuperscript{369} United States Department of Agriculture Foreign Agricultural Service, \textit{Saudi Arabia Grain and Feed Annual}, 5.
\textsuperscript{370} Lippman, ”Saudi Arabia's Quest for ‘Food Security’,” 90.
\textsuperscript{371} Al-Kandari and Jukes, ”The food control system in Saudi Arabia - Centralizing food control activities,” 35.
\textsuperscript{372} Al-Kandari and Jukes, ”The food control system in Saudi Arabia - Centralizing food control activities,” 35.
\textsuperscript{373} Lippman, ”Saudi Arabia's Quest for ‘Food Security’,” 95.
\textsuperscript{374} Woertz, ”The Governance of Gulf Agro-Investments,” 88.
including those in Saudi Arabia.\textsuperscript{375} Thus, Saudi policymakers promote domestic production, when possible.

However, despite this wariness of agricultural import markets, food self-sufficiency has been considered unsustainable in recent years, largely due to the finite nature of Saudi water resources; consequently, Saudi Arabia has been reducing domestic agricultural production to “conserve its water,” resulting in rising imports.\textsuperscript{376} The country developed a policy “to phase-out wheat cultivation by 2016” and “[rely] on imports to satisfy the Kingdom’s wheat requirements;” it has also worked to end production of other highly irrigated crops, thus “[terminating] its barley production subsidy program in 2003” after “two decades of commercial barley production.”\textsuperscript{377} Saudi Arabia has continued to invest in domestic agriculture, but “is changing the mix of crops and products it will support to emphasize those that consume less fresh water;” for example, “vegetable production is shifting from open fields, where water evaporates, to greenhouses.”\textsuperscript{378}

In light of Saudi import circumstances, the Global Food Crisis of 2007-08 raised major food security concerns and “evoked memories of threatened food supplies.”\textsuperscript{379} Unlike many countries, Saudi Arabia seemed well-positioned for the crisis given “the amount of cash per unit of population at its disposal;” however, despite Saudi “oil wealth,” the country faced “export restrictions imposed by food suppliers such as Argentina, Russia, India, and Vietnam.”\textsuperscript{380,381} Thus, although “oil revenues” should have “ensured

\textsuperscript{375} Woertz, "The Governance of Gulf Agro-Investments," 88.
\textsuperscript{376} Al-Kandari and Jukes, "The food control system in Saudi Arabia - Centralizing food control activities," 36.
\textsuperscript{377} United States Department of Agriculture Foreign Agricultural Service, \textit{Saudi Arabia Grain and Feed Annual}, 1, 8.
\textsuperscript{378} Lippman, "Saudi Arabia's Quest for 'Food Security'," 95.
\textsuperscript{379} Woertz, "The Governance of Gulf Agro-Investments," 88.
\textsuperscript{380} Lippman, "Saudi Arabia's Quest for 'Food Security'," 91.
\textsuperscript{381} Woertz, "The Governance of Gulf Agro-Investments," 88.
that imports remained affordable,” export restrictions “have become a very serious
concern;” during the crisis, “food-driven inflation imposed real hardship on the
millions of Saudis who live below the official poverty line,” which “became a political
issue, to the extent that there are political issues in the kingdom.” These issues will
likely worsen as global food demand may rise 100-110% by 2050 and “competition for
commodities is…being stoked by [crop] conversion to biofuel production” worldwide,
potentially leading to continued price volatility, high import costs, and export
restrictions.

In light of Saudi concerns over import markets, the nation has developed
numerous strategies to ensure access to food resources. After the “[Global Food Crisis],
Gulf states,” including Saudi Arabia, “have taken a more vocal role in advocating for the
interest of food importers at the multilateral level;” for example, they “have backed
proposals by Japan and Switzerland at the WTO to discipline export restrictions” and
potential “food weaponization.” Additionally, the country is striving to “diversify its
sources for importing wheat and…not rely on a particular supplier” in order to “guard
against shortages of wheat supply in the world markets” and import “at best prices.”
Further, Saudi Arabia has also developed FTAs to limit potential restrictions on imports
and, for example, is a member of the GCC and Pan-Arab FTA; the GCC itself, in turn,
has entered or initiated FTAs, “with Arab Countries,” the EU, China, Pakistan, India,

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384 Tilman et al., "Global food demand and the sustainable intensification of agriculture," 20260.
385 Lippman, "Saudi Arabia’s Quest for ‘Food Security’," 94.
387 United States Department of Agriculture Foreign Agricultural Service, Saudi Arabia to Diversify
388 World Trade Organization, Kingdom of Saudi Arabia, March 18, 2014,
Turkey, MERCOSUR, EFTA, Japan, Singapore, Australia, New Zealand, and ASEAN. 389

Moreover, in 2010, Saudi Arabia “announced plans to increase its strategic reserves of wheat from six months to 12 months of consumption by 2016,” through the government-based “Grain Silos and Flour Mills Organization” (GSMFO), responsible for “logistics and stocking in wheat.” 390 Although this effort has resulted in “Saudi milling wheat imports” rising “58 percent” between “2012/13” and “2013/14,” this grain will be stored in “several new wheat silos…under construction” that will raise “GSFMO wheat storage capacity to about 3.7 million [metric tons] by the end of 2015.” 391 Lastly, while Saudi Arabia does not disseminate “barley imports and stock” data, the USDA estimates its “strategic barley reserves” can support “three months of…consumption.” 392 Hence, the nation is developing improved strategic food reserves, which may offer relief during food supply crises.

**Saudi Arabia – Food Security Responses: Large-Scale Land Acquisitions**

Saudi Arabia faces considerable food security challenges; it has a rising population, changing dietary trends, and severe limits to domestic agricultural production, coupled with both an increasing dependency on and historical aversion to world import markets. It also has developed overall food security strategies that “exemplify mistrust in

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the reliability of markets” and “[reflect] a strategy of security mercantilism.” Against this backdrop, Saudi Arabia has implemented, as part of its food security strategy, a substantial LSLA program.

The Saudi LSLA program was initiated “in January 2009” “to facilitate land leases and investment opportunities for the Saudi private sector by political support and co-financing.” Named “the King Abdullah Initiative for Saudi Agricultural Investment Abroad” (KAISAIA), the program is designed “to support investment by private sector Saudi companies in agricultural projects abroad,” so that agricultural goods “would be exported, in whole or in part, to Saudi Arabia.” Some of these goods are earmarked “to establish…‘a strategic reserve for basic food commodities,’ including rice, wheat, and barley.” KAISAIA was developed, essentially, as a “long-term attempt to deal with future food price volatility,” and will sponsor many “investment arrangements, including joint ventures, contract agreements and outgrower schemes.”

KAISAIA is “a public-private partnership,” led by “the Saudi Company for Agricultural Investment and Animal Production,” and supported by a “capital investment of $800 million.” Fundamentally, KAISAIA involves the government “[negotiating] agreements with host countries setting the terms of investment and specifying the conditions under which the host country could cut off exports in emergencies” and “[offering] aid to the host countries to build roads and other infrastructure projects needed to facilitate farm development,” while “providing financial incentives to

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395 Lippman, "Saudi Arabia's Quest for 'Food Security'," 92.
396 Lippman, "Saudi Arabia's Quest for 'Food Security'," 92.
397 Oxford Business Group, Investing Overseas: Private firms encouraged to look abroad to ensure food security.
encourage Saudi investors” to “invest overseas;” regarding the investment itself, “private companies” would “lease the land, hire local workers, provide equipment and fertilizer, and move the crops to market.”³⁹⁹,⁴⁰⁰ According to Dr. Saad Esa, Director of KAISAIA, Saudi Arabia “[lends] to private companies on an interest-free basis and [supports] them with the required facilities and logistics to invest in agriculture abroad.”⁴⁰¹ Overall, the Saudi government requires the “maximum government share” to be “60% in the financing of projects.”⁴⁰²

Regarding food security, KAISAIA “target countries must allow at least 50% of the crops for export back to Saudi Arabia,” and the Kingdom plans to “sign framework agreements” with target states, such as “Bilateral Investment Treaties,” “to protect these investments from the negative impact of political instability, civil wars, unrest and strikes.”⁴⁰³,⁴⁰⁴ According to Dr. Esa, “wheat, barley, corn, sorghum, soyabeans, rice, sugar, oilseed, green fodder, livestock and fisheries” as well as “dairy products” are the “targeted commodities.”⁴⁰⁵ In addition, the Saudi government does consider, or at least describe, KAISAIA as a method to “increase global food production and provide an example of responsible international investment in agriculture;” since the leftover “50 per cent [of crops will be] available to the country of origin.”⁴⁰⁶

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³⁹⁹ Lippman, "Saudi Arabia's Quest for ‘Food Security’,” 94.
⁴⁰⁰ United States Department of Agriculture Foreign Agricultural Service, Saudi Arabia Grain and Feed Annual, 6.
⁴⁰⁵ Oryxsa, "Interview: Dr. Saad A. Khalil Esa, King Abdullah Initiative for Agricultural Investment Abroad."
⁴⁰⁶ Oryxsa, "Interview: Dr. Saad A. Khalil Esa, King Abdullah Initiative for Agricultural Investment Abroad."
Quantitative estimates of Saudi LSLA scope vary; however, investment content appears similar across reports. The Land Matrix estimates that Saudi Arabia has acquired 1,568,218 ha of agricultural land in 11 locations ranging from the Middle East to Eastern Europe, Africa, and South America through 21 overall contracts, each including a corporate investor (see Appendix 3). These findings are generally supported by Dr. Esa, except for land investments in South America, Turkey, and some African countries; according to Dr. Esa, the Saudi government has “identified 31 countries for potential investment and negotiated the relevant agreements such as double taxation with them” and “has already invested in Sudan, Ethiopia, Ukraine and Australia.” In contrast, a Georgetown University study asserts that, as of 2012, the country had invested in 1,713,357 ha of land through 16 deals in 14 countries, including “Ethiopia, Sudan, Senegal, South Sudan, Russia, Philippines, Argentina, Egypt, Mali, Mauritania, Nigeria, Niger (Suspended by host in 2009), Pakistan, [and] Zambia,” only some of which are noted by the Land Matrix and Dr. Esa.

India – Food Security Concerns

India also faces extensive food security and agricultural resource concerns. As with Saudi Arabia, this section examines these issues from both a demand and supply standpoint.

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408 Oryxsa, "Interview: Dr. Saad A. Khalil Esa, King Abdullah Initiative for Agricultural Investment Abroad."
India has the world’s second largest population, at 1,236,686,732 as of 2012, surpassed only by China.\textsuperscript{410} India’s population is growing at 1.3\% per year, a massive rate for its population size, and is expected to peak at 1,644,750,000 in 2065; in fact, by 2030, India is expected to exceed China, with 1,476,378,000 people.\textsuperscript{411,412} This projected growth will require India to ensure food supplies for 400 million more people over the next 50 years.

India also faces demographic trends increasing food demand. India’s GDP per capita has risen considerably, from $457.30 in 2000 to $1,489.20 in 2012.\textsuperscript{413} The country is also rapidly urbanizing at a rate of 2.4\% per year, and India’s urban population has risen from “27.7 percent of the total in 2000 to 31.7 percent in 2012;”\textsuperscript{414} by some projections, this level will reach 50.4\% by 2040 and 55.9\% by 2050.\textsuperscript{415} Despite India’s “preponderance of vegetarianism…[limiting] its demand for meat and feedgrains,” due to rising incomes, urbanization, and economic development, India faces a “changing national [diet]”; specifically, India faces rising demand for “vegetable oils, sugars, sweeteners, animal products (including meat and dairy), and fruits” and falling demand for “rice and wheat.”\textsuperscript{416} Urbanization is vital to this shift, since “urban dwellers have

\textsuperscript{411} The World Bank, World DataBank - World Development Indicators.
\textsuperscript{412} United Nations Department of Economic and Social Affairs, Population (thousands), March 20, 2014, http://esa.un.org/unpd/wpp/unpp/p2k0data.asp.
\textsuperscript{413} The World Bank, World DataBank - World Development Indicators.
\textsuperscript{414} The World Bank, World DataBank - World Development Indicators.
\textsuperscript{415} Elfie Swerts, Denise Pumain, and Eric Denis, “The future of India's urbanization,” Futures 56 (February 2014): 51.
\textsuperscript{416} Baldwin and Bonarriva, "Feeding the Dragon and the Elephant,” 5-6, 8.
higher average incomes and different food consumption patterns than their rural counterparts,” “[consuming] fewer staples, such as grains, [and] more food overall.”\textsuperscript{417}

Finally, biofuel demand raises India’s agriculture production requirements, although the effect of this factor is somewhat limited. India is the fifth largest oil consumer, using “petroleum products to meet 95% of its transportation energy needs,” and has become “increasingly reliant on imports to meet this demand.”\textsuperscript{418,419} Thus, in 2001, the country “initiated biofuel production…to reduce its dependence on imported oil and thus improve energy security,” which, as codified in a 2009 policy, “envisages 20% blending of both biodiesel and bioethanol by 2017.”\textsuperscript{420} However, given biofuel production’s tendency to conflict with food production, India “requires…feedstock [to be] grown on marginal lands, unsuitable for [agriculture].”\textsuperscript{421} According to Guntilake et al., “if about 32 million hectares of waste lands can be cultivated as oilseed plantations, together with modest productivity improvements,” the “national petroleum diesel requirement in 2017 is attainable;” however, “at the current level of productivity, the bioethanol target cannot be met without compromising food production.”\textsuperscript{422} Further, rising biofuel demand inherently places “additional pressure on land and other resources, such as water;” thus, even if only non-agricultural lands are used for biofuel, they may still burden Indian agricultural production.\textsuperscript{423}

\textsuperscript{417} Baldwin and Bonarriva, "Feeding the Dragon and the Elephant,” 5.
\textsuperscript{420} Gunatilake, Roland-Holst, and Sugiyarto, "Energy security for India,” 762.
\textsuperscript{421} Gunatilake, Roland-Holst, and Sugiyarto, "Energy security for India,” 762.
\textsuperscript{422} Gunatilake, Roland-Holst, and Sugiyarto, "Energy security for India,” 762.
India also faces stark agricultural supply restrictions. Nominally, India has abundant arable land, 157,350,000 ha, “second only to the [U.S.].” However, given India’s large population, the country has only 0.1 ha per person, less than Saudi Arabia and half the world’s average. India’s levels of arable land have also been falling, since in 2000 India had 162,717,000 ha total and 0.2 ha per person. Further, Indian land is less productive than other nations’, since “only 42 percent of [Indian] arable land” is “equipped for irrigation,” India has fewer agricultural workers than other states such as China, and India uses less fertilizer. Thus, India’s “cereal yield” (kilograms/ha) is 2,953.6, which is lower than Saudi Arabia (5,166.2 kg/ha), China (5,837.5 kg/ha), and South Korea (7,114.3 kg/ha).

India’s supply limits are exacerbated by land and demographic-based conditions. According to the USDA, in India “unscientific irrigation practices and over-exploitation of ground water are increasingly causing water table depletion and soil salinity,” temperature rises of “one-degree Celsius…can result in a 3-to-7 percent decrease in grain yield,” and about “three-fourths” of “Indian wheat [faces] the threat of the dreaded wheat rust Ug99.” Further, “current [Indian] rice production techniques…have serious environmental implications and cannot sustain projected food demand,” rice is often “produced in coastal regions…susceptible to a rise in sea level,” and “monsoon rains” can “decide the planting and productivity of coarse grain crops” as well as “pulses.”

424 The World Bank, World DataBank - World Development Indicators.
426 The World Bank, World DataBank - World Development Indicators.
428 The World Bank, World DataBank - World Development Indicators.
430 United States Department of Agriculture Foreign Agricultural Service, India - Grain and Feed Annual, 15, 22, 29.
Moreover, falling crop “productivity growth has been particularly acute in India” since “expenditures on input support programs and migrant farm labor payments have crowded out public funding for agricultural research, extension services, irrigation, and other rural infrastructure projects that would support agricultural sustainability.” \(^{431}\) Lastly, the farm “workforce has been declining” and “between 2004-05 and 2009-10, 23 million workers left agriculture;” hence, India may have reduced agricultural labor to produce food products.\(^{432}\)

**India – Food Security Responses: Imports and Self-Sufficiency**

Despite rising demand and limits to domestic supply, India maintains a longstanding wariness to and avoidance of import markets. In agricultural policy, “India has pursued a policy of food self-sufficiency,” especially in “its major food staples: rice and wheat,” “since it gained independence in 1947.” \(^{433}\) Much of this drive for self-sufficiency is based on historical food insecurity; from 1875 to 1919, “one of the worst strings of famines in recorded history” occurred in India, “with an estimated death toll of between 15 and 30 million people.” \(^{434}\) Subsequently, India suffered the “Bengal Famine of 1943-4,” which “killed over two million people out of a population of around 60 million.” \(^{435}\) This history led to “a policy of food control, including over food prices and distribution of foodgrain, more particularly to the vulnerable sections of the community;” after gaining independence, “large numbers of programs were started with the objectives

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\(^{431}\) Baldwin and Bonarriva, "Feeding the Dragon and the Elephant," 3.
\(^{432}\) Santosh Mehrotra, "In India, non-agricultural sectors are driving employment; more workers deserting farms," The Economic Times, February 10, 2014.
\(^{433}\) United States Department of Agriculture Economic Research Service, India.
to win freedom from foreign bread and [achieve] self-sufficiency.”\textsuperscript{436} Thus, “the goal of maintaining self-sufficiency in important food grains is a national political issue;” even today, the country’s “agricultural policies seek to: a) attain a higher level of food self-sufficiency; b) ensure remunerative prices to farmers; and c) maintain affordable prices to consumers.”\textsuperscript{437,438}

India has been relatively successful in staple grain self-sufficiency, attaining a 0.5 “cereal import dependency ratio” (see Appendix 6).\textsuperscript{439} In rice and wheat, this “goal has been achieved,” “by developing and adopting high-yielding varieties, expanding irrigation, and increasing fertilizer use-all aided by supportive output price and input subsidy policies.”\textsuperscript{440} To encourage “domestic production,” India also employs “subsidies on the purchase and use of fertilizer, seeds, fuel, irrigation water,” “minimum support prices,” and “high import tariffs on foreign agri-food products.”\textsuperscript{441} Thus, India imports little wheat (2,940 tonnes in 2013), rice (700 tonnes in 2013), milk & cream (5,340 tonnes in 2013), and vegetable or animal fats (1,160 tonnes in 2013).\textsuperscript{442} Further, according to the USDA, “India currently does not import corn or other coarse grains” (including “millet, sorghum, or barley”), rice has not imported since 2008, and “imports of wheat…have been precluded due to subsidized sales of wheat” (these facts somewhat

\textsuperscript{437}Baldwin and Bonarriva, "Feeding the Dragon and the Elephant," 2.
\textsuperscript{439}United Nations Food and Agriculture Organization, \textit{FAOSTAT - Compare Data}.
\textsuperscript{440}United States Department of Agriculture Economic Research Service, \textit{India}.
\textsuperscript{441}Gilmour, Samarajeewa, and Gurung, "India: An Agri-Food Prospectus," 67.
conflict with official Indian statistics). Overall, “India’s domestic agricultural
production currently supplies nearly 97% of its food demand.”

However, while India has remained self-sufficient in certain agricultural products,
especially staples, the country’s shifting demographics, changing demand, and required
trade liberalization under the World Trade Organization (WTO), have caused India to
rely on imports for many goods. Currently, “India’s major agri-food imports include
vegetable oil, pulses, fruits and nuts;” according to Indian national statistics, in 2013
India imported 11,012,730 tonnes of vegetable oils, 3,837,560 tonnes of pulses, 892,160
tonnes of cashew nuts (fruit was tracked by value, not weight). Moreover, the nation is
now the “world’s leading buyer of edible oils,” and is the “world’s largest producer,
consumer and importer of pulses.” Hence, as of 2010, India had “import dependency
ratios” of 14.3 for “pulses” and 46.85 for “vegetable oils,” which is incongruous with its
drive for self-sufficiency.

Demographics largely drive these imports, “since as countries develop
economically and urbanize, traditional diets heavy in staples (such as grains and tubers)
gradually shift to more meats, vegetable oils, dairy, aquatic products, fruits, vegetables,
and processed foods.” Thus, wheat, pulse, vegetable oil, and non-beef meat demand is
expected to grow, and, according to “food and agriculture minister, Sharad Pawar,” India

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445 Gilmour, Samarajeewa, and Gurung, "India: An Agri-Food Prospectus," 68.
447 The Economic Times, "Import duty on edible oil raised to 10 per cent," *The Economic Times*, January 10, 2014.
449 United Nations Food and Agriculture Organization, *FAOSTAT - Compare Data*.
450 Baldwin and Bonarirva, "Feeding the Dragon and the Elephant," 5.
will “remain import dependent [in] pulses and edible oils” until 2020.\textsuperscript{451,452} However, India is promoting domestic production, for example, “[boosting pulse] output through diversion of land to pulse cultivation,” using “sharply higher” minimum price supports, and raising the “refined edible oil” import duty to 10 percent.\textsuperscript{453,454}

India has also been required to partially open its economy as a WTO member, raising its import reliance. After joining the WTO in 1995, “India had to revamp its policy of import substitution to an open economy with export-oriented growth in agriculture.”\textsuperscript{455,456} This change especially affected edible oils, for which “import dependency” grew “from 15.2 per cent of the total edible oil consumption in 1995-96 to 52.6 per cent in 2009-10.”\textsuperscript{457} Moreover, imports of “pulses, spices, cotton, [and] wood products” have also risen considerably.\textsuperscript{458}

Despite reliance on imports for certain goods and required economic integration, India’s agricultural policies continue to emphasize consumer protection and “domestic price stability at relatively low price levels.”\textsuperscript{459} Hence, India employs many strategies to ensure self-sufficiency and price stability; although the country “has replaced quantitative restrictions on imports of all agri-food products with import tariffs” due to WTO rules,

\textsuperscript{451} Gilmour, Samarajeewa, and Gurung, “India: An Agri-Food Prospectus,” 68.
\textsuperscript{452} The Times of India, "Food prices to ease, but India to remain import dependent: Pawar," \textit{The Times of India: India Business}, January 29, 2010.
\textsuperscript{453} United States Department of Agriculture Economic Research Service, \textit{India}.
\textsuperscript{454} The Economic Times, "Import duty on edible oil raised to 10 per cent."
\textsuperscript{456} V.P.S. Arora, "Agricultural Policies in India: Retrospect and Prospect," \textit{Agricultural Economics Research Review} 26, no. 2 (July-December 2013): 146.
“average tariff protection for agricultural products in 2010 was 33.2%.” In response to food price shocks, India frequently “[adjusts] tariffs substantially to balance competing producer and consumer interests while complying with its WTO commitments.” India also uses “border measures such as tariffs, quotas, and non-tariff measures” as well as “domestic subsidies to inputs, outputs, transportation, storage, and consumption,” thus “[protecting] domestic producers from import competition, [managing] domestic price levels, and [guaranteeing] domestic supply.” India also responds to “estimated shortfalls in domestic production” with “export controls” to prevent rising prices.

Beyond trade barriers, India employs numerous strategies for ensuring food security. India has a longstanding “grain reserve” system, which “purchases grain from farmers at a Minimum Support Price” and transports it “from the states with excess production to states” with “deficits.” It has also signed or is presently negotiating 34 free trade agreements, which can protect against trade restrictions in the event of a food crisis. Therefore, India uses a combination of economic integration and protectionism to ensure food security.

Due to India’s self-sufficiency and price-stability goals, the Global Food Crisis provoked considerable food security worries and relatively extreme responses. Thus, when food prices “[peaked] in May-June of 2008,” food exports, “most notably of common rice and wheat, were halted while imports of several food items were liberalized;” for example “tariffs on edible oils” were reduced “from almost 80 percent in

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460 Gilmour, Samarajeewa, and Gurung, "India: An Agri-Food Prospectus," 68.
461 Gilmour, Samarajeewa, and Gurung, "India: An Agri-Food Prospectus," 68.
2006/7 to zero in 2007/8.” These efforts “to ensure abundant food supplies” and curb “food inflation” were, at first, effective; India suffered “less than ten percent” food inflation “in 2008/09, while in most of the developing countries of the region, food prices [rose] more than 20 percent.” However, “due to one of the severest droughts since 1972/73” in India, “food prices surged in 2009/10;” hence, from 2008 to 2014, annual “average food inflation rose sharply to 10.3 [percent],” which has continued despite post-crisis “moderation in global food prices.” Further, as “protein, fruits and vegetables” demand grew over this period, India’s “supply response has not been adequate,” exacerbating food inflation.

**India – Food Security Responses: Large-Scale Land Acquisitions**

Due to India’s rising food demand and food inflation, the risks of food crises, and a drive for self-sufficiency and price stability, the nation has enacted a LSLA food security strategy. While its LSLA efforts are similar to those of other states, for example encouraging private investment in overseas agriculture, India is more cautious in these efforts, which are not codified in official government policy. Nevertheless, Indian LSLAs are supported by government entities and state officials have endorsed official LSLA policy actions.

India’s LSLA efforts became a serious government initiative following the Global Food Crisis, “as a long-term answer to keep prices of farm products under control.”

After the “food price hikes of 2008, the Indian government established a Working Group

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470 Mohanty, *Why is recent food inflation in India so persistent?* 6.
on agricultural production,” which recommended that “Indian companies…be encouraged to buy lands in foreign countries for producing pulses and oilseeds under long term supply contracts to Indian canalising agencies.” Further, India’s “Ministry of External Affairs suggested that the purchase or lease of overseas land for cultivation by firms should be supported with new policy incentives, lifting restrictions on outward foreign direct investment.” The government’s initial LSLA strategy involved a “grand plan” for “acquisition of large tracts of land in neighbouring countries like Myanmar and far off places like Paraguay,” Canada, Australia, and Africa.

Eventually, however, India’s explicit strategy grew ambiguous. In 2012, reports appeared suggesting “the government has decided to throw its might behind private purchases of farm land overseas to ensure food security for India;” they claimed, “the agriculture ministry…sought views from other ministries on an institutional mechanism to extend sovereign support to [Indian companies’] acquisition of farmland abroad that could include guaranteed [crop] buyback.” However, “agriculture secretary PK Basu” contradicted these reports, asserting, “the proposal is in a nascent stage,” “there is a debate going on whether the government should get into it or not,” and the government had only “asked the Indian Institute of Foreign Trade to conduct a study.”

Additionally, on the same day as this report, “Agriculture Minister Sharad Pawar” stated, “the Indian government has no plans to buy farmland abroad or help private

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474 Rowden, "How India facilitates land-grabbing trend in Africa."
475 Subramaniam, "Govt, India Inc plan to farm land abroad."
477 Tiwari and Tiwari, "Food Security: Government mulls private purchase of farm land abroad."
companies do so. However, Pawar’s aversion contradicts a previous statement in which he “made it clear that while the government would not invest in buying land abroad, his ministry would act as a facilitator ‘if the private players show interest in this.’” Moreover, even government research organizations such as the “Indian Institute of Pulses Research” (IIPR) exhibited support for the “innovative idea” “of leasing land abroad for growing pulses and [bringing] the produce back to India;” the IIPR report supporting this initiative was praised by Minister Pawar as “a pragmatic assessment of the agricultural production and food demand scenario by the year 2050.”

Despite India’s ambiguous public claims, as recently as 2014, according to the USDA, the Indian government is “encouraging Indian companies to explore opportunities to produce [crops such as] pulses overseas.” While India has no formal LSLA policy, the Land Matrix documents 36 Indian agricultural land deals abroad covering 927,266 ha, excluding four of “unknown size” (see Appendix 4). Although Indian companies execute the deals, the state “plays a prominent role…implementing reforms that facilitate direct foreign investments and providing trade diplomacy assistance and credit lines through the Exim Bank.”

The Indian Export Import Bank (Exim), with trade diplomacy support from the Indian government, provides substantial assistance to companies investing in agriculture

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478 Ratnajyoti Dutta, "India has no plans to buy farmland abroad - agriculture min," Reuters India, March 5, 2012.
481 United States Department of Agriculture Foreign Agricultural Service, India - Grain and Feed Annual, 36.
abroad and is a key facilitator of India’s LSLA strategy. The Exim Bank provides two services contributing to LSLAs, “overseas investment finance” and “lines of credit.”\(^{484}\)

Regarding the former, the bank offers “finance for Indian [companies’] equity participation in the overseas Joint Venture (JV)/ Wholly Owned Subsidiary (WOS).”\(^{485}\)

The agriculture industry is clearly supported by this service; the example on the bank’s website is “‘Advanta Semillas,’ a company producing hybrid seeds of sunflower, corn, sorghum, etc.,” with facilities in Argentina, Australia, and Thailand, which was acquired by Mumbai-based “United Phosphorous, with support from the Exim Bank.”\(^{486}\)

The Exim Bank also provides lines of credit (LoCs) to “‘foreign governments,” “national or regional development banks,” “overseas financial institutions,” “commercial banks abroad,” and “other suitable overseas entities.”\(^{487}\) These LoCs “enable buyers in [foreign] countries to import developmental and infrastructure projects, equipment, goods and services (such as farming) from India,” facilitating Indian private investment.\(^{488}\)

Moreover, “as a rule, goods and services for minimum 75% value of the contracts covered under these [LoCs] must be sourced from India,” so, therefore, “Indian foreign investors stand ready to win concessions and contracts for agricultural development in the form of foreign direct investment.”\(^{489,490}\) As of January 2014, the Exim Bank had initiated


\(^{486}\) Export-Import Bank of India, *Overseas Investment Finance*.


over 20 LoCs to develop agricultural industries in a range of nations, mostly in Africa.\textsuperscript{491} LoCs also often overlap with Indian LSLAs; states with both Indian LSLAs and LoCs include Tanzania, Cambodia, Madagascar, Mozambique, Ethiopia, Sudan, Sierra Leone, and Ghana, and to an extent Kenya, Brazil, Zambia (these three LoCs are not specifically for agriculture, but may nevertheless support agricultural investment).\textsuperscript{492,493} In fact, the only Indian LSLA host nations that do not concurrently have LoCs are Uganda, Indonesia, and Malaysia.\textsuperscript{494,495}

One key example of the Exim Bank and Indian trade diplomacy facilitating LSLAs is India’s investment in Ethiopia. Ethiopia received “[$65 million] for rural electrification” in 2006, $640 million “in 2007 to [revitalize the] state-run sugar industry,” and “at least four tranches of funding, ranging from [$90 million] to [$200 million]” from 2007 to 2011.\textsuperscript{496} Ethiopia “exports agricultural…products, such as tanned sheepskins, dried legumes, oil seeds, and ginger to India,” many of which are products contributing to India’s import dependency.\textsuperscript{497} Further, “Ethiopia has agreed that 85% of the Indian financing for sugar production” “should be used to hire Indian companies;” India also faces rising sugar demand and import reliance.\textsuperscript{498} Moreover, 14 Indian LSLAs are in Ethiopia, comprising 285,912 ha, many for crops vital to India such as cereals, oil seeds, rice, pulses, and sugar.\textsuperscript{499} Indian trade diplomacy protects these deals, such as through “a

\begin{footnotesize}
\begin{enumerate}
    \item Export-Import Bank of India, \textit{Exim Bank’s Operative Lines of Credit}.
    \item Land Matrix, \textit{Get the Detail: India}.
    \item Export-Import Bank of India, \textit{Exim Bank’s Operative Lines of Credit}.
    \item Land Matrix, \textit{Get the Detail: India}.
    \item John Schellhase, \textit{A subtle engagement: Ethiopia and India}, Discussion Paper, Consultancy Africa Intelligence, 2013.
    \item Schellhase, \textit{A subtle engagement: Ethiopia and India}.
    \item Schellhase, \textit{A subtle engagement: Ethiopia and India}.
    \item Land Matrix, \textit{Get the Detail: India}.
\end{enumerate}
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bilateral Investment Promotion and Protection Agreement” and a “Duty Free Tariff Preference Scheme for Less Developed Countries,” which Ethiopia “was among the first” to join.500

Lastly, India promotes “outward FDI” for Indian companies, which facilitates land acquisition and overseas agriculture investment.501 Initially, “rules for outward FDI began to be liberalized in the 2000s,” and in 2003 the Indian government enacted “liberalisation measures” allowing “Indian corporates” and “registered [partnerships]…to undertake agricultural activities” overseas.502 Additionally, in May 2011, India “further increased the limit within which Indian companies are allowed to invest abroad;”503 the Reserve Bank of India (RBI) allowed “Indian companies” to make “financial commitments in overseas ventures up to 400 per cent of their net worth.”504 Although the RBI curtailed this expansion to 100 percent in August 2013, it relaxed this limit to 400 percent again in September 2013.505 This promotion of overseas investment has “been crucial [for] Indian agricultural companies investing in foreign agricultural land.”506

Although India has no explicit LSLA policy, it clearly strives to secure agricultural resources abroad, specifically by encouraging investment by private firms. Further, India has strongly considered codifying these efforts in official policy and, even if it has not yet done so, state officials and research organizations have promoted such a

501 Rowden, India's Role in the New Global Farmland Grab, 18.
503 Rowden, India's Role in the New Global Farmland Grab, 18.
506 Rowden, India's Role in the New Global Farmland Grab, 18.
policy. Thus, despite official policy, India has, in practice, developed an implicit LSLA strategy, which operates similar to other nations’ and secures access to the agricultural resources India demands.

**Discussion**

In the first chapter, numerous similarities were found between China and Korea’s food security concerns, objectives, and strategies, which appear to contribute to their mutual use of LSLAs. However, given the nations’ location, their parallels may have been due to regional factors instead of general trends. Nevertheless, by analyzing these same food security conditions in Saudi Arabia and India, it appears that these states share considerable similarities with China and Korea; thus, based on the second chapter’s hypothesis, the first chapter’s findings are likely generalizable. This section compares similarities in the food security traits found in the first chapter with those of Saudi Arabia and India.

**Food Security Concerns**

As the first chapter describes, China and Korea must contend with rising and shifting food demand due to urbanization, population growth and change, and increasing incomes. This chapter found that these are also key trends in Saudi Arabia and India; both face growing populations, rising incomes, and rapid urbanization, which increase long-term food demand and shift diets away from traditional staple foods. Further, although Saudi Arabia is an exception due to its oil resources, India, China, and South Korea all invest in biofuels, raising demand for “feedstock” such as corn for ethanol or edible oils for biodiesel; while India aims to produce such crops on non-farm lands, such production may nonetheless strain agricultural resources and raise feedstock demand. Thus, these
states face strikingly similar food demand concerns, requiring future access to greater and more varied food resources.

Additionally, all four countries face substantial agricultural supply constraints. Each has a steadily decreasing level of arable land per person, already well below the world’s average.\textsuperscript{507,508} Further, these countries all contend with agricultural sustainability difficulties due to environmental challenges, demographic trends, and, as the Literature Review describes, plateauing crop yields.\textsuperscript{509,510} Lastly, a decreasing agricultural labor force exacerbates food security concerns in India, China, and South Korea, although this is less of a challenge for Saudi Arabia. While specific supply constraints are somewhat different for each nation, notably Saudi Arabia’s non-renewable water limits and India’s risk of monsoons and temperature change, all face stark agricultural production limits, especially in terms of meeting rising domestic demand.

\textit{Food Security Responses}

Due to these food security concerns, Saudi Arabia and India have implemented responses that closely mirror those of China and Korea. Most notably, all four countries share an aversion to world agricultural import markets, based on national experiences, histories, past colonialism, or desire for independence. Therefore, as with China and Korea, many of Saudi Arabia and India’s food security goals and strategies seem driven by a desire to satisfy rising demand for agricultural products while avoiding import markets, when practicable.

\textsuperscript{507} The World Bank, \textit{Arable Land (hectares per person)}.\textsuperscript{508} The World Bank, \textit{Data - Arable Land}, 2013.\textsuperscript{509} Sparks, "Large Scale Land Acquisitions in Sub-Saharan Africa: The New Scramble," 687.\textsuperscript{510} Eccleston, "Peak Food?" 11.
Despite this aversion, all four nations do depend on imports for specific agricultural products; while each country relies on imports to varying “absolute” degrees and for different products (for examples, see appendix 6), each faces some level of dependency, intensified by projected future demand and changing demographics. However, in large part due to the Global Food Crisis, these nations have exhibited significant vulnerabilities to import markets; Saudi Arabia realized that its oil wealth is not sufficient to secure food supplies and India faced high and unrelenting food price inflation. These vulnerabilities have been exacerbated by fears of “food weaponization,” prompting each country to limit or advocate against export restrictions (at least concerning other countries employing them). Therefore, all four states appear to have been significantly influenced by the Global Food Crisis, particularly in terms of prompting national worries about import dependence and longer-term food insecurity.

In reacting to these worries, all four countries have implemented comparable response strategies. Specifically, they attempt to promote self-sufficiency and lessen reliance on imports, or at least mitigate the dangers of this dependency. For example, each has engaged in FTAs, developed strategic grain reserves, or attempted self-sufficiency in production of certain agricultural goods such as staple grains; although total self-sufficiency became unsustainable in the case of Saudi Arabia, its current reliance on imports seems due to necessity, not a desire for economic liberalism. Additionally, for the most part, each country has subsidized grain production, raised farmers’ incomes, and used trade protectionism or other “mercantilist” measures to ensure domestic supplies. Finally, despite aversion to imports, all four countries have

engaged in international cooperation, through WTO or FTA agreements, to secure access to commodities difficult to procure domestically.

Large-Scale Land Acquisitions

In light of the similar food security concerns, objectives, and strategies shared by Saudi Arabia, China, India, and Korea, it is not surprising that they employ markedly similar LSLA food security strategies. All four use this strategy to secure food resources abroad, while distancing the state’s role in the process by conducting LSLAs through private firms. While the Saudi policy is more institutionalized than India’s, and China and Korea fall in between, each state gives private enterprise the lead, encouraging investment financially or through supportive regulation.513 Further, all nations promote the benefits available to target nations through these investments, classifying LSLAs as “development” or “aid.”

As the first chapter describes, governments likely distance themselves from LSLAs for a number of reasons, specifically political ramifications and costs. LSLAs are disparagingly called “land grabs” in academic and activist literature, and are criticized for harming local populations; thus, LSLAs can have appreciable political effects on host nations.514 For example, an attempt by South Korean company Daewoo Logistics to lease “1.3 million hectares in Madagascar,” about half of the country’s arable land, resulted in “riots and overthrowing of the Madagascan government.”515 India faced a similar scandal in 2008 when Karuturi Global, an Indian company, “leased 300,000 hectares (ha) of land in southern Ethiopia” to “[become] the world’s largest food producer.”516 This “made

515 Lee and Müller, South Korean External Strategy Qualms, 14.
516 The Hindu, "Karuturi debacle prompts Ethiopia to review land policy," The Hindu, June 1, 2013.
international headlines” and prompted the Ethiopian government to “[take] control of land allocation from the regional governments,” “[subject] potential investors to greater scrutiny and [lease] out land in incremental plots of 5,000 to 10,000 ha rather than vast tracts.”\(^{517}\) Therefore, as described previously, nations may distance themselves from LSLAs to mitigate geopolitical or media ramifications. Moreover, since financial costs of LSLAs fall primarily on corporations, this strategy is likely cheaper for governments than direct investment.

\textit{Analysis}

The first chapter found common food security conditions in two dissimilar countries, China and South Korea, that appear to contribute to these countries’ use of food security LSLAs, and that LSLAs in these countries are used to support a broader food security strategy. This second chapter hypothesized that the first chapter’s findings are generalizable to nations beyond East Asia, to all nations utilizing LSLAs for food security purposes. To test this hypothesis, it analyzed two diverse countries that both use LSLAs but are outside East Asia, Saudi Arabia and India. By determining if these nations share the traits contributing to LSLA strategies in China and South Korea, this chapter intended to establish the extent to which these motivations are generalizable.

The results of this study demonstrate that Saudi Arabia and India share many food security concerns, objectives, and response approaches with China and South Korea. Each faces rapidly growing and changing populations, contributing to projected increases and shifts in domestic food demand, coupled with limits to agricultural production capacity. These nations are wary of imports and support policies promoting agricultural self-sufficiency; when necessary, they rely on imports, but work to mitigate the risks of

\(^{517}\) The Hindu, "Karuturi debacle prompts Ethiopia to review land policy."
import markets through international trade agreements. As described in the first chapter, in China and South Korea LSLAs seem to be yet another method of satisfying domestic demand while securing greater self-sufficient control over agricultural resource sources; this also appears to be the case for Saudi Arabia and India.

This chapter’s results support the hypothesis that the food security factors contributing to LSLA strategies in China and South Korea are generalizable to nations outside East Asia. While China and South Korea may share many region-based factors such as state-led growth, security concerns, or similar histories, these similarities do not limit the applicability of the first chapter’s results or diminish the food security conditions that might motivate a LSLA food security strategy. Therefore, it appears to be a generalizable trend that states demonstrating rapid and long-term rising food demand for a growing variety of products, limited agricultural supply capacity, a wariness of import markets, a dependency on agricultural imports, and strategies promoting agricultural self-sufficiency are most likely to choose a LSLA food security strategy.

However, the similarities described in the Literature Review regarding the East Asian propensity for “a strong mercantilist preference to import resources from nationally-controlled suppliers,” using “interventionist financial assistance policies to ensure their firms” can “compete with third parties,” may still provide wisdom regarding LSLAs, since both Saudi Arabia and India also share such a propensity. According to Woertz, Saudi Arabian food security strategies “exemplify mistrust in the reliability of markets” and “[reflect] a strategy of security mercantilism,” similarly, India is known for using protectionist food security strategies, for example, “[adjusting] tariffs

substantially to balance competing producer and consumer interests.\textsuperscript{520} Thus, an additional generalizable trait that may lead to a LSLA strategy is an overall mercantilist economic outlook in regards to agriculture. Although this characteristic is shared among many East Asian countries, it is also shared by other countries throughout the world and, combined with the previously described food security factors, likely contributes to LSLAs.

This topic offers many areas of future research. While these first two chapters have established general food security conditions leading to LSLAs, they have not examined cases in which a nation faces these conditions but does not choose LSLAs. Hence, future research could determine whether such cases exist, and, if so, why LSLAs do not occur. Such research may explain \textit{why} the food security conditions examined in these chapters lead to LSLAs and why states might forego this strategy. Additionally, other elements of LSLA-pursuing nations, such as national economic outlook, political structure, etc., could be explored to determine if such factors also contribute to or motivate the use of food security LSLAs. Lastly, given that water use and availability appear to be major food security factors in many of these nations, the role of water or other agricultural inputs in influencing food security conditions or LSLAs could be more thoroughly examined by future scholars.

\textbf{Conclusion}

This chapter sought to generalize the findings from the first chapter of this thesis by examining whether these results applied to two diverse nations located outside the East Asian region, Saudi Arabia and India. By comparing these nations’ food security concerns, objectives, and strategies with each other and with the findings from the

\textsuperscript{520} Gilmour, Samarajeewa, and Gurung, "India: An Agri-Food Prospectus," 68.
previous chapter, it determined that the first chapter’s findings were generalizable and that “East Asian” factors were not their cause.

Therefore, in any region, it appears that countries choosing LSLAs are those that face rapid and long-term increasing demand for food, demand for a growing variety of agricultural products, and severe limitations on food production to meet this demand. These countries likely have a dependency on imports for certain food products but also a strong aversion to global import markets and implement strategies to the mitigate risks of this dependency. Further, they will institute policies that promote self-sufficiency in agriculture, including economic support for domestic agriculture and trade restrictions. In light of these overall goals and aversions, these countries will likely pursue LSLAs as one supporting component of an overarching food security strategy, to minimize import risks and secure access to domestically demanded agricultural resources.

This chapter’s insights contribute to the academic literature on both food security and “land grabbing,” examining the factors encouraging investor nations to pursue a LSLA food security strategy. This chapter clarifies why nations enact specific food security strategies, especially since nations that select similar food security strategies (such as LSLAs) may possess dissimilar attributes. Moreover, given that this chapter determined the generalizable nature of the first chapter’s findings, these findings are now more applicable and have increased explanatory power regarding nations’ selection of food security strategies. This explanatory or predictive power may be especially valuable in upcoming years, since projected rising food demand may contribute to future food insecurity and encourage more nations to pursue LSLA food security strategies.
CHAPTER 3

Introduction

The first two chapters of this thesis sought to determine whether there are specific food security conditions, interests, and objectives that motivate nations to pursue LSLAs as a food security strategy. The results of these chapters indicated that there are, in fact, significant food security drivers that directly prompt nations to encourage domestic companies to acquire farmland abroad to secure access to agricultural resources. However, a further question remains: would any country that faces these food security conditions pursue such a strategy, or are there additional, “secondary” motivations underlying LSLAs?

Policy decisions never occur in a vacuum; they occur via policymakers influenced by culture, history, experience, incentives, and ideology. Thus, a nation’s paradigm defines the range of policies that are possible to select in response to a given set of conditions. Consequently, while any given policy choice might be directly driven by specific “triggers,” there are likely “secondary” motivations of that choice, based on a country’s national outlook.

The first two chapters determined the food security “triggers” that lead nations to pursue LSLAs. However, these chapters also found that LSLAs are often compared with mercantilism or colonialism in the literature, and that they are often implemented as an attempt to circumvent agricultural import markets. Moreover, the countries pursuing them all strive for agricultural self-sufficiency, preferring independence to reliance on other states. Since these characteristics appear indicative of an aversion to liberal
economic markets, one “secondary motivation” of LSLAs could be a nation’s overarching economic outlook.

Therefore, this chapter examines the economic outlooks of nations pursuing food security LSLAs, as indicated by national economic history and current policy choices, to determine if these states share economic paradigms. Specifically, it analyzes the economic outlooks of the four nations studied in the first two chapters, since these states are proven to share similar LSLA strategies and food security “triggers.” This chapter seeks to establish whether economic outlook can be considered a secondary motivation of food security LSLAs, setting the stage for this policy choice; further, if these nations do share an economic outlook, it seeks to determine whether this outlook appears “illiberal” or “mercantilist” in nature, which would be consistent with LSLAs’ description in the literature. This chapter ultimately finds that these states do share an illiberal and nationalist economic outlook, as each has a significant history of illiberalism that carries through to modern-day economic policies; these findings indicate that an illiberal economic outlook is one secondary motivation of LSLAs.

**Literature Review**

The first two chapters determined specific food security factors that, in general, contribute to nations’ selection of LSLAs as a food security strategy. However, in light of LSLAs’ connection to national efforts at agricultural self-sufficiency, avoidance of international import markets, and a fundamental “mistrust in the reliability of markets,” it appears that nations pursuing LSLAs may be driven not just by similar food security concerns, but also by specific economic outlooks and tendencies. 521 Moreover, given the similarities described in the second chapter’s Literature Review regarding East Asian

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521 Woertz, ”The Governance of Gulf Agro-Investments,” 97.
tendencies toward state-led growth, market intervention, and mercantilist-reminiscent natural resource competition, it is possible that other LSLA-pursuing nations share these traits or an overarching “illiberal” economic paradigm. To provide a foundation for analyzing LSLA nations’ economic outlooks, this section examines academic literature describing LSLAs as a form of mercantilism and colonialism. It then analyzes mercantilism and colonialism within the larger context of economic illiberalism in order to explore the potential economic similarities shared by LSLA-pursuing nations.

**Large-Scale Land Acquisitions, Colonialism, and Mercantilism**

There is a large body of literature comparing LSLAs to colonialism, due to the clear similarities between the two as national efforts to acquire foreign land. For instance, in describing LSLAs, Cotula explains, “far from being a new phenomenon, large land deals have a long history in Africa” and “during colonialism, settlers and colonial companies took millions of hectares.”522 Similarly, Spieldoch and Murphy assert “land acquisition by foreigners is not a new phenomenon” since “colonization of farmland by foreign settlers dates back thousands of years” and “the 19th century saw a huge wave of colonization by European powers;” they view LSLAs as simply “the most recent phenomenon,” comprised of “countries…looking to outsource food, feed, and fuel production to stabilize future supplies.”523 Scholars and researchers such as Margulis, McKeon, and Borras Jr., McMichael, Pearce, and Kugelman reiterate LSLAs’ colonial “historical precedent.”524,525,526,527

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523 Spieldoch and Murphy, "Agricultural Land Acquisitions," 40-41.
However, many scholars also view LSLAs as a distinct trend, even if these scholars recognize concurrently colonialism’s precedent to and similarities with LSLAs. For example, Margulis, McKeon, and Borras Jr. understand “the recent wave of land grabs [as] distinct from previous eras,” since this wave “occurs in a world of sovereign states exercising territorial control at least formally.”

Likewise, Kugelman argues, “today’s overseas land investments differ from their [colonial] predecessors in significant ways;” specifically, “their scale is much larger,” “they emphasize staples instead of cash crops,” “they are concluded on the basis of agreements instead of through the barrel of a gun,” and, lastly, “they are spearhead by more government-led investment than in the past.”

Historically, colonialism has been closely linked with the economic doctrine of mercantilism (which is defined and described more thoroughly in the following section). For example, O’Brien describes “the mercantilist age of imperialism” from 1415 to 1815, during which “colonization and commerce with other continents [transformed] the Netherlands and England into successful market economies.”

Likewise, Roll depicts mercantilism as a doctrine that places “the building-up of nation-states…in the forefront” of economic development, which “uses monetary, protectionist, and other economic devices…as instruments to this end;” hence, as Roll explains, “the value of colonies” under mercantilism “depended on their ability to act as exclusive markets for the manufactures of the mother country, to supply in exchange raw materials and other

529 Kugelman, "Introduction,” 3.
produces which would otherwise have to be bought from foreign countries, and to form a reservoir for cheap labor.”

Due to the link between mercantilism and colonialism, scholars have also compared LSLAs with mercantilism or attributed LSLAs to mercantilist economic attitudes. McMichael, for example, explains that modern “land grabbing entails a direct ‘security mercantilism,’” which involves “[overriding] the multilateral trading system governed by WTO rules, substituting direct access to productive land for food…rather than relying on market access.”

Margulis, McKeon, and Borras Jr. support this viewpoint, maintaining that although “today’s land grabs are facilitated by the institutions and practices of neoliberal globalization,” they are motivated by “‘security mercantilism’ that may have illiberal ends.” Numerous additional scholars such as Dixon and Nally reiterate and support LSLAs’ link to mercantilism.

**Mercantilism and Economic Illiberalism**

Given that LSLAs are often compared to colonialism and, likewise, to mercantilism, it appears possible that nations pursuing food security LSLAs may adhere to a common economic outlook. Hence, this section provides an overview of mercantilism and explores literature describing the range of economic paradigms to which LSLA nations may adhere.

In essence, mercantilism is considered the “economic thought and practice in Europe from about 1500 to 1750,” which “[viewed] both power and wealth as legitimate

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goals of national policy;” mercantilist states “believed that a state could use the gold and silver it accumulated to increase its power,” and thus “took all necessary measures to accumulate gold by increasing their exports and decreasing their imports.” According to Bulut, mercantilism developed for European states “to achieve several aims simultaneously,” including “[consolidating] the power of the central governments, [regulating] the rapidly increasing industrial and trade sectors, and [accumulating] wealth.” Therefore, according to Roll, “state intervention” in the economy “was an essential part of mercantilist doctrine,” which led mercantilists to “[clothe] their views in the garb of a policy designed to strengthen the nation.” Lastly, as Buzan explains, mercantilism is characterized as a system “in which economic and individual interests were subordinated to the pursuit of state power.”

Despite mercantilism’s development in early-modern Europe, many modern scholars, according to Cohn, “refer to some states today as being ‘neomercantilist’” or mercantilist, in essence “[using] mercantilism as a general term in reference to realist thought and practice in [International Political Economy studies].” Such modern-day “mercantilist” or “realist” states take many forms, ranging from autarkic to protectionist or even fully “open” (and, according to Buzan, can even “combine” these economic traits), however, they are all characterized by diverging from the position of economic liberalism.

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541 Buzan, "Economic structure and international security: the limits of the liberal case," 615.
view ‘the economy as a creature of the state;’” contrarily, liberals “tend to view economics and politics as separate and autonomous,” asserting “that governments should not interfere in economic transactions and that their role should be limited to creating an open environment in which individuals and private firms can freely express their economic preferences.”

Fundamentally, the critical link between modern and historical “mercantilist states” is based on the role of the state in the economy and the purpose of national economic development. As depicted by Gilson and Milhaupt, liberals believe that “the individual company is the unit whose value [should be] maximized” whereas modern mercantilists view “the country [as] the unit whose value is to be maximized, with a corresponding increase in the role of the national government as a direct participant in and coordinator of the effort.” Thus, modern mercantilism can essentially be depicted as a form of “economic nationalism,” which is described by Gilpin as an overarching doctrine that believes “economic activities are and should be subordinate to the goal of state building and the interests of the state.”

There is a large body of scholarship analyzing economic nationalism. Nakano provides a thorough overview of the “aim” and “policy” of economic nationalism, as compared to liberalism; according to him, “economic nationalists aim at establishing, maintaining, and enhancing the (economic and political) power of the nation” and, therefore, “believe that an active role for the state may be required for economic

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development” but will also “in principle adopt any kinds of policies, including ‘liberal’ ones, so long as these contribute” to national power.546 In contrast, he views “the primary aim of liberal economic policy [as] economic efficiency and the welfare of individuals” and, thus, “liberals in principle advocate free markets and minimal state intervention.”547 Moreover, as described by Harlen, unlike liberals, “Economic Nationalists frequently regard trade negatively…and favor economic protectionism,” especially for “economically weak nations.”548 Likewise, Isaacs-Martin characterizes economic nationalism as viewing “the state [as] instrumental in utilising its resources and distributing the benefits to its citizens equally to strengthen the nation.”549 In contrast to Harlen’s argument, however, Isaacs-Martin cautions, “economic nationalism should not be confused with protectionism” since it might, at times, be “in the state’s best interest…to support free trade,” and instead argues that economic nationalism “strives to eliminate foreign control and centralise ownership.”550 To synthesize these views, while economic nationalism can support diverse, sometimes contrasting, beliefs or tenets, overall it rejects liberalism (yet may utilize liberal practices), supports state-led economic development, and provides a greater role for government economic intervention.

According to the literature, economic nationalism and even modern mercantilism can be described using a variety of terms and divided into numerous subcategories. For instance, according to studies by Gilpin, Buzan, as well as Guerrieri and Padoan,

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mercantilist states may be considered “benign” or “malevolent.”\textsuperscript{551,552,553} As described by Guerrieri and Padoan, “benign mercantilism aims to protect domestic welfare and stability” whereas “malevolent mercantilism tries to increase state power.”\textsuperscript{554} However, in describing the Soviet Union as an example, Buzan asserts, “it makes no difference…whether the Soviet Union is considered to be militaristic and expansionist or defensive and benign” since it “is a constant in the analytical distinction between contemporary liberal and mercantilist international economic systems.”\textsuperscript{555} In sum, regardless of the “type” of mercantilism, all mercantilist states fundamentally differ in outlook from liberal ones.

An additional characterization of economic nationalism noted in the literature is “state capitalism.” Bremmer, a seminal scholar in the study of state capitalism, describes this form of capitalism as “a system in which the state functions as the leading economic actor and uses markets primarily for political gain.”\textsuperscript{556} He depicts state capitalism as led by “four primary actors: national oil companies, state-owned enterprises, privately owned national champions, and sovereign wealth funds,” and as mainly implemented by “emerging-market countries” with “histories of heavy state involvement in their economies.”\textsuperscript{557} Beeson and Islam reiterate Bremmer’s view of state capitalists as having a history of intervention, describing “the determination of economic structures and relationships” as having “an inherent ‘institutional logic’” or “institutional inertia [that]

\textsuperscript{552} Buzan, ”Economic structure and international security: the limits of the liberal case,” 608.
\textsuperscript{554} Guerrieri and Padoan, ”Neomercantilism and international economic stability,” 29.
\textsuperscript{555} Buzan, ”Economic structure and international security: the limits of the liberal case,” 612.
\textsuperscript{556} Ian Bremmer, ”State Capitalism Comes of Age,” \textit{Foreign Affairs}, May/June 2009: 2.
\textsuperscript{557} Bremmer, ”State Capitalism Comes of Age,” 2, 5.
will inhibit change.”558 Other scholars, such as Apeldoorn, Graaff, and Overbeek, have expanded upon these analyses, describing “statist capitalism” as a system in which “the state tends to go beyond what is normally deemed to be the essence of capitalism.”559 They assert that this system is “associated with the strategies of developing states seeking to catch up with…the power of the West,” ranging from “rentier strategies,” which focus on “maximizing income derived from the possession of natural resources,” to “developmentalist strategies,” which “[constitute] investment-driven industrialization” efforts.560

One key component of state capitalism described in the literature is the possibility for state-led intervention to take advantage of the free market liberal system. For example, Aligica and Tarko depict state capitalism as “[using] the free market system–for instance free rides the relatively liberal global trade system–to get rich and influential” and then “[using] influence and power for objectives that could end up undermining the very system of free markets.”561 Likewise, McNally portrays state capitalism as “a political economy in which the state directs and controls key productive forces in an economy, yet employs capitalist practices such as market competitive pressures.”562 This is supported by Apeldoorn, Graaff, and Overbeek, who state, “whereas earlier the ‘statist’ catch-up with the West involved a mercantilist and protectionist strategy in which the country’s own industries were shielded from global competition, the statist capitalists of today have

opened up to the world economy” and are “playing along with the (neo-)liberal rules of the game.”

This body of literature demonstrates fundamental similarities among non-liberal economic systems and outlooks. Although non-liberal systems have the propensity to be either protectionist or open and can utilize a wide range of strategies, all use the economy in an essentially nationalist manner to “maximize” the “value” of the state instead of the individual. Moreover, non-liberal outlooks share an aversion to key tenets of the liberal doctrine, despite having a tendency to exploit liberal economic tools when such tools will improve the position of the state. Since LSLAs are often based on an aversion to import markets and consist of state-led efforts to control key national resources for state development, it appears likely that countries employing LSLAs may adhere to an economic paradigm that is in some form economically nationalist and non-liberal.

Shortcomings and Contributions

As described in the first two chapters, most of the academic literature on LSLAs focuses primarily on the content of land deals, the effects of LSLAs on host nation populations, and the scope of land investments. The literature also focuses, to an extent, on the “first-degree,” motivations of investor nations, for instance, the Global Food Crisis of 2007-2008. However, the literature is significantly lacking regarding more complex or deep-rooted investor nation motivations, such as long-term food security concerns or overarching economic paradigms. While scholars do note the links between LSLAs and colonialism or mercantilism, they do not expand upon these links to reveal connections between LSLAs and economic outlook similarities among major investor nations. This

564 Gilson and Milhaupt, “Sovereign Wealth Funds and Corporate Governance,” 346.
chapter, therefore, seeks to provide greater insights into potential commonalities among investor nations’ overarching economic outlooks, due to their mutual use of LSLAs. To research these parallels, this chapter will analyze the economic outlooks of the four nations examined as case studies in the first two chapters, China, South Korea, Saudi Arabia, and India.

**Theory and Hypothesis**

This chapter hypothesizes that countries utilizing LSLAs as a food security strategy will share overarching economic outlooks and tendencies. Specifically, it postulates that these nations will share an overall economically “illiberal” or economic nationalist paradigm, although the “form” of illiberalism (protectionism, state-capitalism, etc.) may vary by country. Fundamentally, this chapter tests the extent to which states pursuing food security LSLAs may be motivated (in an indirect, policy environment sense) by illiberal economic outlooks and an attempt to “maximize” the “value” of the state over the individual.565

As the Literature Review describes, LSLAs have frequently been linked to colonialism and, hence, to mercantilism. Since mercantilism is often considered the foundational economically nationalist outlook, it appears likely that states pursuing LSLAs adhere to such illiberal views in other areas of economics and development, which would thus be indicative of an overall illiberal view. Moreover, modern illiberal or economically nationalist states often strive for goals that coincide with those of LSLAs, such as avoiding or circumventing markets, protecting domestic companies or consumers, manipulating “liberal” markets for national gain, and relying on state intervention to direct national economic efforts.

565 Gilson and Milhaupt, "Sovereign Wealth Funds and Corporate Governance," 346.
Nations adhering to an illiberal economic outlook might support a wide variety of economic policies or have disparate economic tendencies; for example, one illiberal state might support protectionist tariffs to develop domestic industries whereas another might open to free trade but engage in substantial state intervention. However, all illiberal states “reject” liberal doctrine, to some extent, and utilize economic policy in a nationalist, state-centric (as opposed to individualistic or “free trade”) manner. Therefore, to test this chapter’s hypothesis, this analysis examines illiberal economic policies or tendencies in each of the nations studied in the first two chapters, to determine the extent of “economic nationalism” in these states.

Methodology

This chapter examines the economic outlooks and tendencies of countries pursuing LSLAs as a food security strategy, to determine the extent to which these outlooks and tendencies adhere to an illiberal, economic nationalist paradigm. To analyze this, it compares the illiberal policies and tendencies of the nations investigated as case studies in the previous two chapters, China, South Korea, Saudi Arabia, and India. It then determines areas of overlap, which should provide insights into whether economic illiberalism, nationalism, and mercantilism underlie food security LSLAs. If the results demonstrate that each country utilizes economic policy in a significantly nationalist or illiberal manner (for instance, heavy state intervention, an abundance of state-owned enterprises, nationalized natural resources, state-centric development policies, tariff or trade barrier protections for domestic industries, mercantilist export support, or significant investment in opaque sovereign wealth funds), then it is likely that nations pursuing LSLAs share an overarching illiberal economic outlook. If such economic
parallels cannot be found, then it is likely that economic outlook is not a general secondary motivator of LSLAs. All primary findings are as of June 2014.

The previous two chapters comprehensively analyzed the food security motivations, circumstances, and conditions of China, South Korea, Saudi Arabia, and China, as well as their LSLA styles; thus, these countries have also been selected for examination in this chapter. Since the previous two chapters confirmed that these nations share food security conditions and LSLA styles, these factors will be controlled for in an analysis of economic paradigms; to select other nations that pursue LSLAs might leave this study vulnerable to the critique that, despite any results demonstrating economic outlook similarities, these nations might not share food security conditions or LSLA styles. Moreover, the previous two Methodology sections identified vast fundamental political, regional, demographic, and economic disparities among the case study nations, which supported the generalizable nature of the previous chapters’ findings regarding food security conditions and LSLAs; therefore, analyzing these states in the current chapter should also reveal generalizable trends in terms of economic paradigms, given the diverse nature of the sample.

As described in the previous two chapters, case study-based research can be subject to data availability difficulties. Similar to the previous chapters, this study individually analyzes disparate countries’ histories and policies; it is therefore possible that available information may vary by nation, especially if there are limited English-language sources in each state on a particular topic. This chapter utilizes a diverse range of sources to correct for this difficulty; however, the specific sources used for each country may vary in some respects.
Finally, to define and clarify terms, liberalism is a doctrine “[emphasizing] the importance of the free market and private property and [seeking] to limit the government’s role in economic affairs.”\textsuperscript{566} Moreover, using Gilson and Milhaupt’s definition, liberalism attempts to “maximize” the “value” of the company or individual, instead of the state.\textsuperscript{567} In contrast, economic nationalism, modern mercantilism, or illiberalism will be considered doctrines that essentially attempt to “maximize” the country’s value, using a wide variety of specific economic tools.\textsuperscript{568} Further, such views will “give priority to politics over economics and generally view ‘the economy as a creature of the state.’”\textsuperscript{569} Although some illiberal views may encourage the use of “liberal” economic tools, such as reducing trade barriers, these views will be considered illiberal if such tools are utilized in a state-centric attempt to increase national power, security, or stability, or if they are implemented within the context of a wide range of illiberal tools (such as protectionism, state intervention, etc.).

Results

The first two chapters established general food security conditions that motivate nations to pursue a LSLA food security strategy. However, it is likely that there are additional, “secondary” motivations that drive countries to pursue such a strategy, such as national economic outlook. Given LSLAs’ comparison in academic literature to illiberal economic outlooks and strategies, such as mercantilism and colonialism, this chapter seeks to determine if states pursuing LSLAs adhere to an illiberal economic paradigm in other national efforts. This section, therefore, examines to what extent China, South

\textsuperscript{566} Cohn, \textit{Global Political Economy: Theory and Practice}, 77.
\textsuperscript{567} Gilson and Milhaupt, "Sovereign Wealth Funds and Corporate Governance," 346.
\textsuperscript{568} Gilson and Milhaupt, "Sovereign Wealth Funds and Corporate Governance," 346.
\textsuperscript{569} Cohn, \textit{Global Political Economy: Theory and Practice}, 57.
Korea, Saudi Arabia, and India exhibit illiberal or nationalist economic histories and current policies.

**China**

China has a long history of using economic nationalist or illiberal strategies. At its founding in 1949, China “installed a socialist economy both in industry and (after mid-1950s) agriculture, and the private sector was minimal and operated in minute scale and under the shadows.”⁵⁷⁰ However, after the death of Mao Zedong, China began to “liberalize” its economy; “after 1978, small private enterprises were permitted, the agricultural sector was partly de-collectivised, and special economic zones were established in order to boost exports and attract foreign capital.”⁵⁷¹ This liberalization continued as China “coined the notion of a ‘socialist market economy’” in 1992 and joined the World Trade Organization in 2001; consequently, “scores of [small and medium enterprises] were privatized, the import licensing and quota system relaxed, tariffs considerably reduced, new industrial segments opened up for foreign investment, and export-supporting measures [were] created.”⁵⁷²

Thus, on the surface, China appears economically liberal by many measures; the country utilizes many of “the essential elements of capitalism,” for example, by “[promoting] calculating capitalists, a free market, [and] wage labor.”⁵⁷³ However, in reality, the nation “shows a total involvement of the state in the economy and complete

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synchronization of a party-government-military-economic regime." Further, China’s liberalization process was fundamentally designed by the state to achieve national interest objectives and has been primarily state-led. To mitigate “economic stagnation,” the state created “cycles of induced reforms…where each small step at liberalization created pressures for further liberalization;” China “[retained] control” over liberalization by, for example, employing “top-down Leninist incentives focused on economic performance” to “[encourage] local governments to compete vigorously for investment capital.”

Moreover, given that the ruling Chinese Communist Party (CCP) has “more than 80 million members,” the CCP “pervades the private sector as well as every level of government,” allowing the state to exert economic control; as Freeman Jr. describes, “in China, the invisible hand is a [CCP] cadre.”

China’s state-led development has contributed to what has been designated as the “China model.” According to Zhao, this model involves “[copying] successful elements of liberal economic policy by opening up much of the economy to foreign and domestic investment, allowing labor flexibility, keeping the tax and regulatory burden low, and creating a first-class infrastructure through a combination of private sector and state spending.” However, this development strategy “is led by a strong and pro-development state, capable of shaping national consensus and ensuring overall political and macroeconomic stability in which to pursue wide-ranging reforms;” the model “[emphasizes] economic growth as an overarching national goal and political stability as

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574 Lin, "Capitalism in China: A Centrally Managed Capitalism (CMC) and Its Future," 70.
577 Suisheng Zhao, "The China Model: can it replace the Western model of modernization?" *Journal of Contemporary China* 19, no. 65 (June 2010): 419.
a pre-condition for modernization.” As summarized by Breslin, the China model is based on a “commitment to doing whatever it takes to promote growth while maintaining political stability.”

Despite nominal liberalization, the state maintains control over the economy through a variety of means, including state-owned enterprises (SOEs), trade barriers, government support, intervention and planning, and sovereign wealth funds (SWFs). Regarding SOEs, “while state firms retreated from the most competitive and least profitable sectors” during liberalization, they continue to control “critical industries” such as “oil, gas, and mining,” “metals, steel, and petrochemicals,” “essential network industries in telecommunications, transportation, and utilities,” as well as “all major banking and financial institutions.”

SOEs in China continue to “compete with other enterprises in the marketplace” but SOE leaders “answer to the dictates of the state.” Further, China’s “‘free’ market is asymmetric in favour of” SOEs “in accessing loans and resources…and operating in both domestic and foreign markets,” SOE employees have “only limited bargaining rights while enjoying security similar to…employees in the bureaucracy,” and “some [SOEs] become ‘national champions’ as the state restricts their competitors and encourages their mergers and acquisitions.” Moreover, China uses these SOEs to achieve national objectives, such as “to secure ever-increasing supplies of foreign oil;” for instance, China “has encouraged the three major Chinese national oil companies (NOCs)…to establish an ambitious internationalization strategy,” and, “as a result of 18 years of expansion in

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578 Zhao, "The China Model: can it replace the Western model of modernization?" 423.
579 Breslin, "The 'China Model' and the global crisis," 1328.
582 Lin, "Capitalism in China: A Centrally Managed Capitalism (CMC) and Its Future," 71.
overseas activities, by 2010 Chinese oil companies had stakes in more than 200 projects in about 50 countries.583

China also utilizes numerous trade barriers to promote domestic enterprise. This is especially the case in innovative or technological fields, for which China “[manipulates] currency, markets, standards, [intellectual property] rights, and so forth to gain an unfair advantage favoring their technology exports in international trade.”584 China also exercises a range of import bans, for example on “used goods” and “remanufacturing process inputs,” tariffs, such as “on narrow body aircraft,” and “export restraints,” including “export quotas, export licensing, minimum export prices, [and] export duties” primarily on “raw material inputs where [China] holds the leverage of being among the world’s leading producers.”585 Further, China has “attempted to manage the export of many primary, intermediate and downstream products by raising or lowering the value-added tax rebate available upon export,” at times “[reinforced]…by imposing or retracting export duties.”586

Additionally, China uses protectionist measures to defend “domestic industries;” it often applies “restrictive investment regimes…in numerous manufacturing sectors” and in “service sectors, such as financial services, telecommunications services and express delivery.”587 Moreover, “discriminatory regulatory processes” are used to “frustrate efforts of U.S. suppliers” in industries such as “services;” these processes include

583 Roland Dannreuther, ”China and global oil: vulnerability and opportunity,” International Affairs 87, no. 6 (2011): 1345-1346.
586 United States Trade Representative, National Trade Estimate Report on Foreign Trade Barriers: China, 5.
587 United States Trade Representative, National Trade Estimate Report on Foreign Trade Barriers: China, 6.
“informal bans on entry and expansion, various restrictions on the cross-border supply of services, [and] overly burdensome licensing and operating requirements.”588 Lastly, the country is considered “among the least transparent and predictable of the world’s major markets for agricultural products,” due to regulators’ “selective [market] intervention.”589

Beyond pure trade barriers, the Chinese state plays a prominent role in supporting, intervening in, and planning the Chinese economy. For example, China “[provides] a range of injurious subsidies,” specifically for export-promotion, to support “its domestic industries.”590 Further, CCP “Cadres stimulate the growth of production, employment, and civic pride” by offering “Chinese entrepreneurs,” at home or abroad, “exemptions from government regulations and licensing regimes, cheap loans, free land, political protection, and security from labor unrest.”591 These cadres often “play the economic role that fund managers and other investors do elsewhere,” however, they also command “the power of the layers of the government and party apparatuses they represent,” adding a “political twist” to economic management.592 The state also targets “economically and strategically important” industries for development through the “Strategic Emerging Industries” initiative, including “energy-saving and environmental protection,” “new generation information technology,” “biotechnology,” “high-end equipment manufacturing,” “new energy,” “new materials,” and “new-energy vehicles.”593

588 United States Trade Representative, National Trade Estimate Report on Foreign Trade Barriers: China, 8.
589 United States Trade Representative, National Trade Estimate Report on Foreign Trade Barriers: China, 10.
590 United States Trade Representative, National Trade Estimate Report on Foreign Trade Barriers: China, 4.
593 United States Trade Representative, National Trade Estimate Report on Foreign Trade Barriers: China, 3.
Lastly, China employs illiberal financial controls and SWFs, which contribute to the state’s “direct control of vital economic capital.”\textsuperscript{594} In China, “all major banks are under the control of a vice premier at the State Council” and, as of 2010, “about four-fifths of the assets in the banking system are controlled by 17 institutions, whose leaders are all appointed.”\textsuperscript{595} Moreover, “China is expanding its SWFs;” Chinese SWF expansion began “in 2007 with the establishment of the China Investment Corporation with assets of $200 billion” and, in recent years, China has developed “at least three” more.\textsuperscript{596} These SWFs are considered worrisome because China “[provides] very little public information about their investment strategies and holdings;” thus, they could “help domestic companies secure technology or other expertise from a portfolio company even if that transfer reduces the portfolio company's value,” since “the loss to the portfolio company [would be] shared by all owners, while the benefit from the transfer [would accrue] entirely to the SWF and its government.”\textsuperscript{597}

\textit{South Korea}

South Korea also has had a long history of state-led economic development focusing on national interest objectives. South Korea began a significantly state-directed economic development plan “in 1962 when the newly launched Park Chung-Hee military regime, which seized power through a military coup in 1961, initiated the ‘Five Year Economic Development Plan.’”\textsuperscript{598} The Park government implemented an economic development strategy to increase exports, through which “domestic firms imported raw

\textsuperscript{594} Lin, "Capitalism in China: A Centrally Managed Capitalism (CMC) and Its Future," 77.
\textsuperscript{595} Lin, "Capitalism in China: A Centrally Managed Capitalism (CMC) and Its Future," 77.
\textsuperscript{596} Lin, "Capitalism in China: A Centrally Managed Capitalism (CMC) and Its Future," 77.
\textsuperscript{597} Gilson and Milhaupt, "Sovereign Wealth Funds and Corporate Governance," 352-354.
materials or half-finished goods and exported finished goods cheaply;” to do so, the
government “established several [SOEs]” and provided “incentives,” such as cheap loans,
“to exporting firms.”599 In essence, the goal of this development strategy was “economic
development through rapid industrialization,” which was to be guided by “three powerful
agencies (the Economic Planning Board, the Ministry of Trade and Industry, and the
Ministry of Finance).”600

Beginning “in 1973,” the Park government decided to “strategically promote six
heavy and chemical industries;” these industries included “steel, non-ferrous metals,
machinery (including car manufacturing), electronics, ship building and petrochemicals,”
and “strong [state] support” was offered “to these sectors” in terms of loans, tax
incentives, competition limits, “restrictions on foreign ownership,” and establishment of
SOEs.601 To further support “targeted” industries, “only the government” was permitted
to “access foreign borrowing and allocate the credit;” the state “also strictly regulated the
labor sector, compressing wage levels and banning labor unions.”602 Moreover, starting in
1980, “policies” were enacted “to manage competition more actively,” which essentially
“provided a tailored support package including subsidized loans, tax exemptions and
fixed term exemptions from anti-trust laws” for industries deemed “re-enforceable;
industries designated as such included “car manufacturing, construction vehicles, diesel
engines and heavy electric equipment” and, thus, Korea “banned new entrants to these
markets until 1989.”603

600 Edward Kwon, "Flashback: Financial Liberalization in Mexico and South Korea," Asian Affairs: An
This development method, historically used by South Korea as well as Japan, Taiwan, and Singapore, has been called the “developmental state” model, the “success” of which is attributed to “the crucial role played by the state.” The core tenets of this model, as described by Kim, involve “export-oriented industrialization,” state commitment to “protecting, subsidizing, and disciplining” “[selected] promising industries and sectors,” a state with “strong capacity to implement and sustain ‘big push’ programmes” as well as “an ability to insulate itself from particular interests in society,” and “linkages between economic planners in the state and business sectors in society.”

Further illustrating this model’s state-centric and political nature, Stubbs explains that the DS is primarily based on “a weak society which is unable to offer any concerted resistance to the rise of a relatively strong state,” “ideas circulating within the society…that [promote] the concept of the DS,” and supportive “regional security” and economic circumstances. This model is frequently characterized as being linked to “nationalism (neo-) mercantilism, economic transformation, rapid industrialization, performance legitimacy or some amalgam of a number of these ideas.”

South Korea eventually began a process of liberalization, starting in the 1980s, “as neoliberal-minded technocrats and U.S. pressures for financial and trade market opening converged;” hence, throughout the 1980s, “the Chun Doo Hwan regime opened the financial market to attract foreign capital to finance a current account deficit.”

Further, due to student protests for “political democracy,” worker efforts to promote “economic democracy,” and “pressure to liberalise the economy…from abroad,”

“economic liberalisation” was pursued, “[reducing] state intervention” as well as “[moving] toward welfare-oriented policies.”

This push toward liberalization shifted the “priorities of the state,” leading to “restructuring within the economic ministries,” “greater openness to direct foreign investments and imports,” and “economic growth [changing] from being the sole, primary goal, to one of many goals of the state.”

Moreover, democracy protests in 1986-87 led to democratic elections in December 1987, ending “nearly two decades of authoritarian rule.” Subsequently, from 1993 to 1998, the “Kim Young Sam government” bolstered liberalization by “[adopting] a comprehensive financial liberalization process” and by pushing for Korean membership in the Organization for Economic Co-operation and Development (OECD).

Despite economic and political liberalization since the 1980s, Korea has, in many ways, retained its illiberal economic outlook. Although Korea no longer follows the DS model explicitly, according to Wong as of 2004, “the developmentally oriented state continues to play important roles in East Asia’s economic, social, and political development” and “the developmental states in Japan, Korea, Taiwan, and China continue to experiment with industrial policies, R&D policies, social welfare reforms, and economic policy.” Further, “the neo-mercantilist ideas that underpinned the DS and its policies became deeply embedded in the formal institutions and informal practices of government,” and these beliefs “continue to have their adherents in key locations in the bureaucracy.”

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609 Nora Hamilton and Eun Mee Kim, “Economic and political liberalisation in South Korea and Mexico,” Third World Quarterly 14, no. 1 (March 1993): 117.
610 Hamilton and Kim, “Economic and political liberalisation in South Korea and Mexico,” 117.
611 Hamilton and Kim, “Economic and political liberalisation in South Korea and Mexico,” 119.
evident in the country’s SOEs, trade barriers, state support for the telecommunications industry, resource security policies, and SWFs.

SOEs remain a large component of the Korean economy. According to an OECD report, as of 2009 (the most recent OECD data) Korea had 56 “enterprises majority-owned by the central level of government,” accounting for 120,655 employees.\textsuperscript{615} The Korean SOE sector is valued at $177.6 billion, “the highest valuation of a national SOE sector among reporting countries.”\textsuperscript{616} However, even these data may underestimate the true count of Korean SOEs, as a report sponsored by the Ministry of Strategy and Finance noted, as of 2010, 22 formal SOEs, 79 “quasi government agencies,” and 185 “other public institutions,” totaling 286; the only difference in these categories is that, “if the revenue an institution generates on its own exceeds 50% of the total revenue, it is classified as an SOE.”\textsuperscript{617} As of 2014, the Strategy and Finance ministry cited the existence of 302 “public institutions.”\textsuperscript{618}

The SOE sector includes a wide variety of firms, often used for national strategic objectives; for instance, the Korea National Oil Company “was established to support the stability of [the] national economy by securing energy supply against oil crisis through the strategic petroleum stockpiling and petroleum development,” and the Korean Development Bank (KDB) was designed to “develop Korean industries and the national economy” in “its role as a government-run bank.”\textsuperscript{619,620} Further, despite prior attempts to

\begin{footnotesize}
\begin{itemize}
    \item[616] Christiansen, "The Size and Composition of the SOE Sector in OECD Countries," 7, 9.
    \item[617] IlChong Nam, Governance of SOEs and Public Institutions in Korea, Knowledge Sharing Program Report, Seoul: KDI School of Public Policy and Management, 2013, 86-87.
    \item[619] Korea National Oil Corporation, About Us, May 29, 2014, http://www.knoc.co.kr/ENG/sub01/sub01_1_1.jsp.
\end{itemize}
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“privatize…state-owned industries, including the KDB,” “draft legislation introduced by the majority party late in 2013 could reverse some privatization plans, including the privatization of KDB.”

Korea also exercises illiberal trade barriers and investment restrictions to protect domestic industries, even despite recent FTAs such as with the U.S. For example, the nation has required excessive “verification” on specific goods to determine country of origin, quality, or security, and has restricted foreign investment in a range of industries, including GPS navigation, cloud computing, credit and debit cards, restaurants, express shipping, and medical devices. The country retains severe “quotas” on foreign media, which, for instance, require “that any movie screen show domestic films at least 73 days per year,” that “foreign programs may not exceed 20 percent of terrestrial television or radio broadcast time,” and that foreign music is limited “to 40 percent of all music content.” Further, “Korea prohibits foreign investment in rice and barley farming,” “imposes a 50 percent foreign equity limitation on meat wholesaling,” “limits foreign investment in electric power generation, distribution, and sales to 50 percent,” “restricts foreign investment in the areas of news agency services and publishing and printing,” and does not allow foreign investment “in terrestrial broadcast television operations.” Lastly, for non-FTA countries, “Korea’s tariffs on imported agricultural goods average

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622 United States Trade Representative, National Trade Estimate report on Foreign Trade Barriers: Korea, 1.
623 United States Trade Representative, National Trade Estimate report on Foreign Trade Barriers: Korea, 1-10.
624 United States Trade Representative, National Trade Estimate report on Foreign Trade Barriers: Korea, 4-5.
625 United States Trade Representative, National Trade Estimate report on Foreign Trade Barriers: Korea, 8.
54 percent” and “its average tariff on non-agricultural goods is more than twice that of the United States,” at 6.6%.\textsuperscript{626}

The Korean state also provides considerable support to specific domestic industries, especially telecommunications (telecoms). Within this industry, the nation often “[engineers] market outcomes through the use of ceilings on dominant firms’ market share, by promoting mergers among smaller operators and by supporting marginal firms through cheap access to bandwidth/[licenses]” as well as “through the use of guaranteed minimal market shares.”\textsuperscript{627} Further, the state “is primarily focused upon promoting the interests of domestic manufacturers” and “effectively ‘manages’ the development of markets;” thus, the government “maintains close relations with certain service providers,” encouraging them to provide “services using newly emerging technologies in return for privileged access to spectrum resources.”\textsuperscript{628} The state also often enacts “regulatory standards” that “delay the entry of foreign technologies to the domestic market, giving domestic firms a grace period in which to adapt.”\textsuperscript{629} Hence, Korean telecoms reflect “active ‘management’ of markets to support the development of indigenous industrial capacity in a major strategic industry,” which “conforms almost perfectly with the developmental state ideal.”\textsuperscript{630}

Korea also pursues mercantilist resource security policies. In 2004, Korea launched “both a National Energy Plan and an Overseas Resource Development Plan,” which “sought to promote investment by national firms in new resource projects in

\textsuperscript{627} Iain Pirie, "The new Korean political economy: beyond the models of capitalism debate," \textit{The Pacific Review} 25, no. 3 (July 2012), 380.
\textsuperscript{628} Pirie, "The new Korean political economy: beyond the models of capitalism debate," 380.
\textsuperscript{629} Pirie, "The new Korean political economy: beyond the models of capitalism debate," 380.
\textsuperscript{630} Pirie, "The new Korean political economy: beyond the models of capitalism debate," 380.
overseas countries;” these policies “provide governmental assistance to national firms to acquire ownership, and ultimately control, of overseas resource projects.”631 Thus, Korean “state-owned financial institutions” are encouraged to “extend discounted loans to national firms…investing in foreign resource projects.”632 In light of this support, “in the oil and gas sector alone, Korea’s oil companies have launched twelve new overseas projects…since state financial support was made available,” and four Korean investments in iron ore have “[been] made with the support of concessionary state finance.”633 Moreover, “diplomacy” also “[supports] overseas investment” and Korea has “[drafted] regulations to ensure that proceeds from state-supported overseas investment are repatriated and reinvested.”634 Such policies reveal “a strong mercantilist preference to import resources from nationally-controlled suppliers.”635

Finally, South Korea utilizes SWFs, specifically the Korea Investment Corporation (KIC).636 According to the fund’s annual report, the KIC “was established in 2005 to preserve and enhance the long-term purchasing power of Korea’s sovereign wealth through efficient management of public funds in the international financial markets” and “as of the end of 2012, total assets under management stood at USD 57.0 billion.” The KIC started with $20 billion, which was initially invested “in traditional asset classes such as stocks and bonds;” over time, “the scope of investment has been broadened to include inflation-linked bonds and commodities as well as private equity,

634 Barclay and Smith, "Introduction: The International Politics of Resources," 129.
real estate and hedge funds” as well as “emerging markets.” Moreover, 3.2 percent of holdings have been invested in “special investments,” which include “resource development, energy, new technologies, etc.”

Despite these public disclosures, according to Kim, the KIC “shows how an SWF can be operated in a way that favors bureaucrats and politicians,” as “its CEOs and Auditors are often appointed from the ranks of bureaucrats, the level of disclosure is kept to a minimum, and some senior positions were terminated during the first year of the new presidency.” Further, the KIC annual report explains that the “KIC adheres to the basic principles of acting in good faith and enhancing shareholder value in the long term when exercising voting rights” and “has drawn up related procedures to ensure voting rights are exercised appropriately;” however, “KIC does not disclose its proxy voting guidelines, nor its related procedures.” Moreover, the fund has “made several cross-border acquisitions in the energy sector,” which “may help prevent Korea from suffering from future oil shocks.” Thus, the KIC appears to be part investment fund, part supporter of national economic strategy.

_Saudi Arabia_

Saudi Arabia is one of the clearest examples of economic nationalism and illiberalism, largely due to the Saudi “non-representative,” “absolute monarchy” system of government, which causes economic actors to “closely associate themselves with the

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powerful elites” and removes any “effective dissent.”

Saudi Arabia has maintained this system since its founding in 1932, and “one of [the] male descendants” of the founder “rules the country today, as required by the country’s 1992 Basic Law.” The country also is considered one of the founders of state capitalism; according to Bremmer, “state capitalism began to take shape during the 1973 oil crisis, when the members of the Organization of the Petroleum Exporting Countries (OPEC) agreed to cut oil production in response to the United States’ support of Israel in the Yom Kippur War.” Thus, “the world’s most important commodity became a geopolitical weapon,” as described by Friedberg, the 1970s oil embargo demonstrates a significant use of “economic statecraft” and an attempt “to use…control over scarce resources to influence the policies of the comparatively strong and wealthy.”

The Saudi system is also considered illiberal due to its vast oil resources and “rentier state” economic and political model. This model is typified by a “state [that] is largely dislocated from the national economy…because of large income from exports of oil, gas, or other ‘rents’” and, hence, does not need “to tax the local economy to finance its activities.” States that adhere to this model are “not under pressure to develop an efficient economic basis for the country, but can rather rest on distributing (or allocating) the revenues [they accrue] from rents.” Further, such nations’ vast “financial resources”

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650 Hvidt, "Economic and Institutional Reforms in the Arab Gulf Countries," 89.
both “[support] the coercive apparatus of the state” and “[sustain] massive social welfare programs,” essentially reflecting “the logic of ‘no taxation, no representation.’”

Saudi Arabia exemplifies this model, since, as of 2012, it “was the world’s largest producer and exporter of total petroleum liquids,” “the world’s largest holder of crude oil reserves, and the world’s second largest crude oil producer.” Moreover, “petroleum exports accounted for almost 90 percent of total Saudi export revenues in 2011,” and oil contributed 75% of state income.

The rentier state system in Saudi Arabia was stronger, in line with peaking oil prices, during the 1970s, when “oil sector government together accounted for 65% of Saudi economic activity and government drove 63% of total investment in physical assets — a rate otherwise only reached in socialist economies.” During this time, “the state’s reach extended to virtually all Saudis,” as “heavily subsidized public utilities, state employment, and free education and healthcare guaranteed the comforts of middle class life for increasing numbers of nationals.” However, despite some attempts at economic reform, this system continues today; according to Hertog, “state employment of nationals remains high — by some [estimates] twice as high as private employment — public services remain subsidized, and networks of princely patronage are still an essential feature of daily life,” while “organized politics remains largely absent.”

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653 U.S. Energy Information Administration, Saudi Arabia, 1.
654 Hvidt, "Economic and Institutional Reforms in the Arab Gulf Countries," 91.
In light of its illiberal rentier state model, the Saudi state intervenes, controls, or supports a large proportion of the economy, exemplified by the country’s state-owned oil resources, development goals, trade barriers, corporate governance structures, and SWFs. Regarding the country’s oil, these vast resources have been under total government control since the 1970s and 1980s, when the “industry shifted…from one primarily controlled by foreign oil companies…to being under the control of the Saudi royal family;” further, “by 1992, the House of Saud owned all mineral resources within the territorial boundaries of the state,” such that “all decisions about oil policy are made by the royal family.”

This government control is under the auspices of “the Saudi Arabian Oil Company or Saudi ARAMCO,” “the state-owned oil company of the Kingdom of Saudi Arabia,” which has its “broadest policy and objectives” determined by the government’s “Supreme Council for Petroleum and Minerals Affairs.” Moreover, Saudi Arabia “systematically restricts its [oil] production” such that “its spare capacity is much larger than the aggregate spare capacity of the rest of the world’s producers;” this fact is critical because Saudi ARAMCO “accounts for more than a tenth of global oil production and a fifth of total proven reserves.” Although it is possible that these production levels are, as argued by Nakov and Nuno, “consistent with its own profit-maximising objective,” these authors do not “reject additional explanations based on geopolitical reasons;” in fact, the nation has employed its “excess capacity to threaten or force other OPEC

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660 Pierce, "Oil and the House of Saud: Analysis of Saudi Arabian Oil Policy," 89.
members to comply with [its] demands” and “political reasons lead the Saudis to maintain secrecy about increases in excess capacity.” Thus, political factors play a major role in Saudi oil production, for example, “internal political stability” based on the Saudi rentier state model, “regional security,” “and foreign relations with oil producer and consumer countries.”

The Saudi government also controls the direction of the economy through development goals directed by the Saudi Arabian General Investment Authority (SAGIA), which employs development funds “to provide long-term loans to the vital sectors of the economy such as industry, agriculture and real estate, in addition to supporting professions and small businesses.” SAGIA’s role is to “oversee investment affairs in the kingdom, including foreign investment” and is considered “the driving force behind Saudi’s investment program.” Further, SAGIA is responsible for guiding the “‘10-by-10’ initiative,” founded “by King ‘Abdullah in 2006,” “to enact reforms and promote targeted investments aimed at developing the Kingdom’s private sector” as well as “to position Saudi Arabia among the world’s Top 10 most competitive economies.” Although these reforms may appear “liberal,” they have been pursued through “centralized decision-making” to achieve the national objectives of improving “job creation,” “income generation, and to qualify for membership in the World Trade

\[664\] Pierce, "Oil and the House of Saud: Analysis of Saudi Arabian Oil Policy," 92-93.
\[665\] Pierce, "Oil and the House of Saud: Analysis of Saudi Arabian Oil Policy," 95.
\[668\] Hvidt, "Economic and Institutional Reforms in the Arab Gulf Countries," 94.
Moreover, since SAGIA is state-run, its “employees, eager to please the
king (and not least to receive the personal bonuses promised to them by King ‘Abdullah
if they succeeded) are believed to have targeted their reform efforts to specific items
which would most heavily affect their [competitiveness] ranking.”

Saudi Arabia also uses trade barriers to direct and intervene in its economy. For
example, “as a member of the Gulf Cooperation Council (GCC), Saudi Arabia applies the
GCC common external tariff of 5 percent,” and “imposes a 5 percent import duty on most
imported agricultural and food products.” The state also intervenes with a wide range
of “import prohibitions,” such as on “alcohol, pork products, firearms, used clothing,
automobiles and automotive parts over five years old;” moreover, “special approval is
required for the importation of” numerous products, ranging from “live animals” to
“natural asphalt,” “wireless equipment,” and “religious materials that do not adhere to the
state-sanctioned version of Islam.” In its procurement practices, the government favors
Saudi firms and nationals; for instance, it requires “contractors [to] subcontract 30
percent of the value of any government procurement…to firms that are majority-owned
by Saudi nationals” and “foreign suppliers are also required to establish a training
program for Saudi nationals.” The state also “limits foreign ownership in commercial
banks to 40 percent” and 60% for “investment banks and brokerages.” Lastly, the
government curtails foreign investment; for example, “foreign investment is currently

670 Hvidt, "Economic and Institutional Reforms in the Arab Gulf Countries,” 94.
671 Hvidt, "Economic and Institutional Reforms in the Arab Gulf Countries,” 95.
672 United States Trade Representative, National Trade Estimate Report on Foreign Trade Barriers: Saudi
673 United States Trade Representative, National Trade Estimate Report on Foreign Trade Barriers: Saudi
Arabia, 1.
674 United States Trade Representative, National Trade Estimate Report on Foreign Trade Barriers: Saudi
Arabia, 1.
675 United States Trade Representative, National Trade Estimate Report on Foreign Trade Barriers: Saudi
Arabia, 3.
prohibited in 16 manufacturing and service sectors,” “all foreign investment…requires a license from” SAGIA, and “direct foreign participation in the Saudi stock market is generally prohibited.”

Saudi Arabia also demonstrates an illiberal outlook through its significant investment in and influence over domestic firms. For instance, “the largest shareholders” in Saudi companies tend to be “families and the state;” family shareholders are also indicative of state involvement, since “well-connected families are better positioned than other types of block-holders to benefit the company…by using their political connections to influence both policy-making and government-controlled financing.” Further, SAGIA uses “state-owned development funds” to “offer subsidized loans to industrial projects,” which allows “families…to use their influence to divert funding to their companies.” Moreover, according to interviews with Saudi companies, “the pursuit of political and social objectives, rather than shareholder value maximization, was noted as the objective of the state when it has a controlling stake in companies.” Lastly, Saudi regulation neither encourages corporate transparency nor limits insider trading and fraud, since there are few “cases in which violations of disclosure rules, fraudulent accounting and ineffective auditing were detected and punished” and penalties are not “severe enough to deter future violation.”

Finally, Saudi Arabia utilizes a number of SWFs and SWF-like investment operations to direct national revenues. The country first launched an “official oil-

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678 Saudi Arabian General Investment Authority, *Funding Your Business*.
679 Piesse, Strange, and Toonsi, "Is there a distinctive MENA model of corporate governance?" 657.
680 Piesse, Strange, and Toonsi, "Is there a distinctive MENA model of corporate governance?" 659.
681 Piesse, Strange, and Toonsi, "Is there a distinctive MENA model of corporate governance?" 667.
dedicated” SWF in March 2009, called the “Sanabil Al Saudia fund,” however, “other investment vehicles performing much the same function of a SWF have been around for decades in the form of the Ministry of Finance’s Public Investment Fund (PIF) and the SAMA’s (Saudi Arabian Monetary Agency) Foreign Holdings (FH) fund.”682 The FH fund, although managed by the Saudi central bank, is the second largest SWF “according to the value of assets under management” (at $670 billion), if the fund is considered an SWF.683 The fund primarily invests “in low-risk assets, such as sovereign debt instruments,” however, “some foreign holdings are being allocated to securities like fixed income and equities,” and the fund has a “transparency rating” of four out of ten.684 Sanabil, which is “wholly owned by the [PIF],” invests “in assets consisting primarily of stocks, bonds, real estate, foreign currencies and commodities” and “employs a long-term investment strategy comparable to most traditional SWFs.”685,686 Saudi Arabia also announced a new SWF in 2009, called the Hassana Investment Company, which would have “greater independence from SAMA in asset management, in particular across international stock markets” and will “[target] investments in real estate and commercial projects and both foreign and domestic stock markets.”687

India

India has historically exhibited an aversion to markets and support for state-directed development policies, albeit with a less centralized and authoritarian government.

684 SWF Institute, SAMA Foreign Holdings, Sovereign Wealth Fund Profiles, Las Vegas: SWF Institute, 2013.
686 Oxford Business Group, Sovereign wealth.
687 Oxford Business Group, Sovereign wealth.
structure than many developing nations. After gaining its independence from Britain in 1947, “Indian leaders modeled their democratic parliamentary government after that of Britain;” however, the country also “adopted an inward-focused, socialist-style, economic framework.” This framework was “[modeled] on the pattern of the USSR and China,” including “five-year plans…with emphasis on fiscal measures to raise resources for investment and state-led investment planning.” Additionally, the government implemented industrial policies, in 1951 and 1956, “[that] explicitly stated that the role of government was to create industrial wealth” and affirmed “the principle that the state was to be the dominant industrializer” through the SOE “sector.” Combined with “the Second Five Year Plan…that decisively channeled resources to the industrial sector,” Indian policies “put in place a mind-set whereby the evolution of the economy was to be guided by conscious human action and choices that were to be made in New Delhi.” Moreover, the Second Five Year Plan “specifically mentioned that industrial undertakings ought to behave in constraints with the social and economic policy objectives of the state, howsoever defined.”

Following India’s initial move towards state-led development, “several new administrative ministries were set up” to expand the state’s ability to direct the economy and, “since 1956, every conceivable sub-sector of Indian industry has seen the presence of state-owned firms.” Additionally, while “the period from 1947 to 1968 were years

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691 Majumdar, "Crowding Out!" 172.
692 Majumdar, "Crowding Out!" 172.
693 Majumdar, "Crowding Out!" 172-173.
of moderate regulation…the years between 1969 and 1974 were characterized by stringent regulation of private and foreign companies.”

During the latter period, the Indian state “nationalized private sector assets in areas such as insurance, banks, coal, wheat, and significant parts of the steel industry.” Moreover, throughout the 1950-1975 period, “a self-interested bureaucracy, famously dubbed the ‘license-raj,’” enacted “a plethora of controls and restrictions on private sector expansion and exporting,” “a strict and cumbersome system of licensing and quotas” on imports, and “policies to foster indigenous technology.”

Thus, the Indian economic regime from “the late-1950s…into the 1980s” is considered “one of the most highly protected and inward-oriented regimes in the developing world.”

India began partial liberalization reforms from the late 1970s to 1991, such as a “licensing list that permitted limited imports of machinery and raw materials” and “a few measures to promote exports.” However, much more substantial economic liberalization began in 1991 when “a balance of payments crisis was seized by neoliberal reformers,” leading to “the election of Narashima Rao as president in 1991;” the new president “de facto abolished the extensive system of industrial licensing, opened up various segments of the public sector to private capital,” “reduced subsidies and price controls protecting agricultural producers,” and gained membership in the WTO.

Although such reforms have continued to the present day, much of the “developmental state infrastructure [was] retained and some new, if limited, large-scale social policy

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697 Wignaraja, "India's Approach to Economic Reforms," 40.
698 Wignaraja, "India's Approach to Economic Reforms," 41.
instruments, like the *National Rural Employment Guarantee* scheme” were implemented.\textsuperscript{700} Despite liberalization, India remains protectionist, heavily regulated, and dependent on state economic involvement. Specifically, the state relies on SOEs, trade barriers, and investment barriers, to intervene in and protect its economy.

India retains a significant role for SOEs in developing and directing the economy. In spite of liberalization and “the policy shift in favour of the private sector, there are several sectors of the economy where SOEs continue to play a major role.”\textsuperscript{701} Many of these roles are vestiges of the previous economic regime; for example, “historically, Indian banks had been wholly owned by the government” and today “account for roughly 76 percent of total assets and 84 percent of all bank branches” in India.\textsuperscript{702,703} Public firms also play a major role in “defense equipment,” “have the dominant share of the financial sector,” and “exclusively” control “generation of atomic and non-atomic power, manufacture of aircraft, heavy machinery, and equipment for rail and sea transport.”\textsuperscript{704} Further, Indian SOEs “manufacture items such as nonferrous metals, chemical intermediates, iron and steel, drugs and fertilizers, and are involved in diverse activities, such as construction, engineering consultancy, farming, handicrafts retailing, shipping, coal mining, oil refining, and commodity trading.”\textsuperscript{705} Moreover, despite earlier efforts at SOE privatization, these were “discontinued” during the period from 2004-2009.\textsuperscript{706} Thus, as of 2009-2010, there were 217 “Central State-Owned Enterprises,” owned by the

\textsuperscript{700} Schmalz and Ebenau, “After Neoliberalism? Brazil, India, and China in the Global Economic Crisis,” 492.
\textsuperscript{704} Majumdar, "Crowding Out!" 173.
\textsuperscript{705} Majumdar, "Crowding Out!" 173.
central government, and, as of 2007, there were “about 838 [State SOEs] with investment above” 2.7 trillion rupees;\(^{707}\) these firms frequently receive special treatment, such as in government procurement practices and telecom spectrum sales.\(^{708}\)

India also applies significant trade barriers to protect domestic industries and consumers, shielding them from market forces. For example, “many of India’s bound tariff rates on agricultural products are among the highest in the world, ranging from 100 percent to 300 percent,” and “India also maintains very high tariff peaks on a number of goods.”\(^{709}\) Further, “India’s customs tariff and fees system is complex and characterized by a lack of transparency;” for instance, India imposes multiple “cumulative” duties on goods, extracting duties based on prices inclusive of previously paid tariffs, and the disparities between bound and applied tariffs provide “considerable flexibility to change tariff rates at any time.”\(^{710}\)

In addition to tariffs, “India maintains a ‘negative list’ of imported products subject to…nontariff regulation,” which bans the import of certain items, requires import licenses for others, and allows some products to be “importable only by government trading monopolies.”\(^{711}\) Moreover, India provides “several export subsidy programs, including exemptions from taxes” and “financing to exporters at a preferential rate.”\(^{712}\) India also employs substantial food subsidies and agricultural support policies such as


\(^{708}\) United States Trade Representative, National Trade Estimate Report on Foreign Trade Barriers: India, 4, 8.

\(^{709}\) United States Trade Representative, National Trade Estimate Report on Foreign Trade Barriers: India, 2.

\(^{710}\) United States Trade Representative, National Trade Estimate Report on Foreign Trade Barriers: India, 1-3.

\(^{711}\) United States Trade Representative, National Trade Estimate Report on Foreign Trade Barriers: India, 3.

\(^{712}\) United States Trade Representative, National Trade Estimate Report on Foreign Trade Barriers: India, 4.
“minimum support [prices]” and “input subsidies for fertilizer, power, and irrigation water.”\textsuperscript{713,714} Lastly, India “has steadily increased export duties on iron ore and its derivatives” and provides “preferential power rates” for “solar project developers” that source from India.\textsuperscript{715}

India also supports indigenous industry via investment barriers and regulations; this support is largely due to India’s “historical colonial experience,” which often makes the nation “antagonistic toward foreign multinational enterprises.”\textsuperscript{716} In government procurement practices, “foreign firms are disadvantaged when competing for Indian government contracts due to preferences afforded to Indian [SOEs],” and “companies [must] invest 30 percent or more of the value of contracts above 3 billion rupees…in Indian produced parts, equipment, or services.”\textsuperscript{717} Other Indian procurement practices have been labeled “innovation mercantilist;” for instance, “in February 2012” India “announced a Preferential Market Access mandate for electronic goods…which imposes local content requirements on procurement by government and private sector entities.”\textsuperscript{718}

Beyond procurement practices, India limits foreign investment through strict regulations, which often benefit domestic firms. For example, foreign ownership of Indian banks “cannot exceed [74%]” and “foreign banks are not authorized to own more

\textsuperscript{715} United States Trade Representative, \textit{National Trade Estimate Report on Foreign Trade Barriers: India}, 10-11.
\textsuperscript{717} United States Trade Representative, \textit{National Trade Estimate Report on Foreign Trade Barriers: India}, 6-7.
\textsuperscript{718} Stephen Ezell, "Written Statement to the U.S. House of Representatives Committee on Ways and Means Trade Subcommittee," \textit{Hearing on U.S.-India Trade Relations: Opportunities and Challenges}, 2013, 2.
than [5%] of an Indian private bank.”\textsuperscript{719} India also restricts foreign ownership of “news and current affairs” media channels “to [26%],” forbids foreigners from practicing law, and “[regulates] FDI (foreign direct investment) by sector.”\textsuperscript{720} Further, firms must obtain “state and central government permission on a range of issues” such as “land, labor, environment electricity, water, [and] taxation” before pursuing investments, and such “regulations often become a source of rent-seeking and patronage;” thus, “unless one finds a willing state government,” “India is not an easy place to begin business.”\textsuperscript{721}

Lastly, although India has not been a major player in terms of SWFs, the government has announced the creation of the “India Overseas Investment Corporation (INOIC) — under the finance ministry on the lines of a sovereign wealth fund to lend financial muscle for securing access to overseas natural resources.”\textsuperscript{722} This SWF will be funded by “rupee bonds of 15-20 years with sovereign guarantee,” allowing for a “marginally higher” return “than government securities,” which benefits investors; funds will be raised via “state-run entities, banks and financial institutions,” which will be directed to purchase the bonds.\textsuperscript{723} Thus, while India has not actively invested in SWFs, its proposed fund is designed for the political objective of securing natural resources rather than the economic objective of investment.

\textbf{Discussion}

China, South Korea, Saudi Arabia, and India differ politically, economically, geographically, regionally, and by nearly every measure; however, all seem to exhibit an

\textsuperscript{719} United States Trade Representative, \textit{National Trade Estimate Report on Foreign Trade Barriers: India}, 4.

\textsuperscript{720} United States Trade Representative, \textit{National Trade Estimate Report on Foreign Trade Barriers: India}, 7, 9-10.

\textsuperscript{721} Mukherji, "The State, Economic Growth, and Development in India," 97-98.

\textsuperscript{722} Sanjay Dutta, "Govt plans sovereign wealth fund," \textit{The Times of India}, September 17, 2013.

\textsuperscript{723} Dutta, "Govt plans sovereign wealth fund."
illiberal outlook in numerous areas of their economies. Hence, based on this chapter’s hypothesis and given that all four nations pursue food security LSLAs, it appears that nations using LSLAs likely share overarching economic outlooks and tendencies. Moreover, these shared tendencies appear markedly illiberal and nationalist, demonstrating an aversion to “free market,” liberal capitalism and a desire to “maximize” the value of the state.\textsuperscript{724} This section analyzes the specific economic outlook similarities shared by the case study nations.

\textit{History and Current Policies}

Each of the four nations examined in the Results section have a significant history of economic illiberalism. The specific type of illiberalism historically followed by each country differs; China and India adhered to socialist-communist central planning methods, Korea utilized an authoritarian state-led capitalism system, and Saudi Arabia employed a rentier model due to natural resource abundance. Nevertheless, each of these economic models avoids free market, individual-maximizing objectives and emphasizes the primacy of the state in economic direction, development, and planning. Moreover, in the past, each of these nations has either avoided markets altogether, in the case of China and India, or used markets to the state’s advantage, in the case of Korea and Saudi Arabia.

These shared histories are important because, as asserted in the Literature Review, institutionalized economic outlooks often create an “institutional inertia” \textsuperscript{725} that will inhibit change,” or at the very least influence current policymakers.\textsuperscript{725} This assertion appears to prove true, as each of the examined nations’ histories informs their economic policies today. For example, given their state-led background, China and South Korea

\textsuperscript{724} Gilson and Milhaupt, "Sovereign Wealth Funds and Corporate Governance," 346.
\textsuperscript{725} Beeson and Islam, "Neo-liberalism and East Asia: Resisting the Washington Consensus," 209.
still “plan” or direct much of their economies; likewise, Saudi Arabia follows the rentier model in light of its nationally owned resources, and India has retained much of the bureaucratic, regulatory, and state-investment structure that limited liberalization after it gained independence, even despite liberalization efforts. Thus, nominal liberalization notwithstanding, each of the four nations provides a near ubiquitous role for the state in the economy, which appears to be directly “carried through” from these countries’ economic histories.

The analyzed nations also share numerous current economic policies or tools to achieve national objectives. SOEs, which allow states to shift the direction of economic efforts, play a major role in each nation’s economy, often surviving short-lived attempts at privatization. These enterprises are also frequently employed for pursuing national economic objectives; for instance, Saudi Arabia uses ARAMCO to control oil resources, South Korea and China use SOEs to obtain resources, and Indian SOEs preclude foreign firms’ entry into Indian government contracting. Moreover, in each nation, the state is often a major investor in domestic firms and is frequently considered one of the core drivers of economic growth.

All four nations also utilize trade and investment barriers to support indigenous economic development and limit foreign ownership. Thus, each has implemented expensive and/or opaque tariff rules, oppressive regulatory or other nontariff barriers to trade and investment, restrictions on foreign investment in the economy, subsidies on exports and domestic production, and preferential treatment for domestic firms. These policies reflect a mercantilist or nationalist outlook, as they are often intended to support domestic producers at the expense of potential foreign investors; it is likely that such
nationalistic policies are linked to the fact that each of these nations experienced colonial control by foreign powers.

Further, each nation has developed or considered employing SWFs to gain investment returns on state funds as well as to assist the government’s “direct control of vital economic capital.” Such funds are often considered illiberal because they are frequently opaque, fail to provide transparent disclosure, and could be used for political objectives such as controlling or influencing strategic companies, assets, or overseas resources. Moreover, these funds demonstrate a view that believes the state should play the role of active, return-seeking, risk-taking investor in the economy; consequently, there has been a recent “shift” in government “investment strategies…from conservative holdings of government bonds to higher-risk/higher-return investments in equities or corporate acquisitions.”

Lastly, each nation uses mercantilist or nationalist strategies for natural resource acquisition or retention. Saudi Arabia is the clearest example, controlling its oil supply often to pursue national objectives. However, China, Korea, and India utilize state-owned companies for securing natural resources, often overseas or in foreign nations. Thus, these states exhibit a strong desire to circumvent or avoid markets (or, in the case of Saudi Arabia, to control the market for the state’s political and economic advantage).

Analysis

As described previously, this chapter hypothesized that the states examined in the first two chapters of this thesis, which all utilize food security LSLAs, would share overarching economic outlooks and paradigms. Moreover, it asserted that this outlook

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726 Lin, "Capitalism in China: A Centrally Managed Capitalism (CMC) and Its Future," 77.
727 Gilson and Milhaupt, "Sovereign Wealth Funds and Corporate Governance," 349.
would likely follow an illiberal, nationalist, or mercantilist paradigm, consistent with LSLAs’ linkages to mercantilism, colonialism, and economic self-sufficiency. To test this hypothesis, this chapter analyzed the economic histories, policies, and outlooks of four nations examined throughout this thesis, China, South Korea, Saudi Arabia, and India, all of which use food security LSLAs and share similar food security motivations for these LSLAs. This chapter postulated that if these nations shared similar illiberal economic outlooks, then such outlooks would likely be “secondary” contributors to the selection of LSLA food security policies.

Based on this chapter’s results, it appears that all four nations share similar economic outlooks. These outlooks, derived from similar economic histories and demonstrated by current policies, all adhere to an illiberal, nationalist, and mercantilist paradigm, emphasizing the state’s role in directing, influencing, or managing the economy. They support significant state intervention to promote national industrial, political, and social objectives, and view markets simply as a tool that can be directed to achieve these goals; when markets cannot provide desired outcomes, these states adhere to a paradigm that supports circumventing or manipulating them. Hence, such an outlook is consistent with food security LSLAs, which are pursued by nations to avoid the perceived risks or uncertainties of world import markets.

Although a nation’s economic outlook may not directly cause a particular policy, a national paradigm certainly sets the stage for the range of policies a country can follow. Thus, while economic illiberalism does not cause food security LSLAs, it appears to be a secondary motivation that, at the very least, encourages states to pursue such a food security strategy. Moreover, although additional case studies are beyond the scope of this
chapter, economic illiberalism appears to be a general trend among countries pursuing food security LSLAs. As described in the second chapter, Qatar, Kuwait, Japan, and Singapore all pursue food security LSLAs; Japan and Singapore both have been considered “developmental states” and both Kuwait and Qatar follow the “rentier” model of Saudi Arabia.⁷²⁹,⁷³⁰

Therefore, this chapter’s findings support the hypothesis that countries pursuing a LSLA food security strategy share similar economic paradigms and that these outlooks are illiberal, nationalist, and mercantilist in nature. While these outlooks are not a direct cause of LSLAs, they provide a fertile environment for such a policy to be considered. Moreover, given the significant disparities among the four case study nations described in the second chapter, it appears that the correlation between illiberalism and food security LSLAs is a general trend; this is especially likely in light of the findings regarding Japan, Singapore, Qatar, and Kuwait, although these cases have not been rigorously evaluated.

Finally, this topic offers many areas for future research. Although economic illiberalism appears correlated with food security LSLAs, further case studies, such as Japan, Qatar, Singapore, Kuwait, and Oman could be analyzed to confirm this trend. Scholars could also seek out cases in which nations with illiberal outlooks facing similar food security concerns as this thesis’ case study nations choose not to pursue food security LSLAs; such research could better clarify why these factors motivate LSLAs.

**Conclusion**

This chapter sought to determine if national economic outlook could be considered a “secondary motivation” of states choosing LSLAs as a food security

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strategy. By comparing China, South Korea, Saudi Arabia, and India’s economic histories and current policies, it established that these states, which pursue food security LSLAs and face similar food security “triggers,” all share an “illiberal,” “nationalist,” and “mercantilist” economic outlook. Thus, it appears that economic illiberalism can be considered an underlying motivation of food security LSLAs. Such findings are consistent with LSLAs’ description by scholars as driven by mercantilism and similar to colonialism; they are also consistent with the fact that nations employing LSLAs often do so to avoid markets and promote agricultural self-reliance.

Moreover, given the range of nations analyzed by this study, it appears that economic illiberalism, like the findings regarding food security “triggers” in the previous chapters, is a general trend among nations using LSLAs. Hence, based on this chapter’s findings, it could confidently be predicted that a nation pursuing food security LSLAs will likely have a history of economic illiberalism (e.g. communism, socialism, authoritarian development, central planning, or state intervention), and many elements of this history will influence the nation’s current economic policies. For example, such a nation will likely promote domestic industries, prevent foreign investment, employ trade barriers, invest in opaque, nationalistic SWFs, control national resources, support a range of state-owned enterprises, and intervene heavily in the economy (despite the potential for nominal “liberalization” or use of liberal economic tools); fundamentally, such a state will attempt to “maximize” the value of the state in economic endeavors, instead of the individual or company.731

This chapter’s findings further contribute to the academic literature on LSLAs and food security by establishing underlying national characteristics that encourage states to

731 Gilson and Milhaupt, "Sovereign Wealth Funds and Corporate Governance," 346.
pursue food security LSLAs. This chapter expands on the previous chapters’ analysis of LSLA drivers by determining one significant “secondary motivation” that sets the stage for such a policy choice. These findings are important, as they describe the characteristics of a nation that might pursue such a policy in the future; given projected increases in population and food demand, it is critical to know which states might pursue specific food security policies, especially if these policies circumvent the established world agricultural marketplace. Therefore, the more similar characteristics that can be discovered about LSLA-pursuing countries, the better such a policy can be predicted in response to changing global food security circumstances.
CONCLUSION

The purpose of this thesis has been to analyze the recent trend of nations utilizing large-scale land acquisitions as a food security strategy and to uncover general conditions and motivations contributing to the selection of such a strategy. This paper found specific food security conditions as well as preferred national responses to these conditions that appear to generally apply to the diverse range of states pursuing food LSLAs; it also determined that food security LSLAs themselves are similar among these states. Moreover, this paper discovered that LSLA investor countries share common illiberal economic histories, policies, and outlooks, demonstrating that economic illiberalism plays a role in “setting the stage” for states opting to employ LSLAs. In essence, this thesis develops a framework for understanding the driving forces behind LSLAs, which could be applied to future nations and circumstances to predict in which countries this strategy might find favor.

In summary, the first chapter analyzed the food security concerns, objectives, and responses (including LSLA implementation styles) of two nations that both use food security LSLAs but otherwise share few similarities, China and South Korea. It found that both face rising and changing food demand, limits to domestic supply, dependence on food imports combined with a preference for self-sufficiency, and numerous similar food security response strategies. It determined that both encourage private or state-owned firms to invest in agriculture abroad, in hopes that the food produced will be available to the home country.

Given that the nations analyzed in the first chapter are regionally located in East Asia, the second chapter examined additional case studies to ensure that region-based
factors did not account for China and South Korea’s food security conditions and strategy selection. Thus, to determine the first chapter’s generalizability, it investigated Saudi Arabia and India following the first chapter’s template; both nations are vastly different from each other as well as China and South Korea, and neither state is located in East Asia. With only minimal variation, this chapter ultimately found that these states share parallel concerns, conditions, responses, preferences, and LSLA styles with China and South Korea. Consequently, this chapter illustrates the general nature of the first chapter’s findings (outside East Asia).

Lastly, the third chapter examined secondary or underlying motivations of food security LSLAs. Due to the linkages noted in academic literature among LSLAs, colonialism, and mercantilism, as well as the general preference for self-sufficiency held by LSLA investor states, LSLAs appear to have a substantial “economic” element; hence, to indicate whether economic outlook could be considered a “secondary motivation” of LSLAs, this chapter examined if national economic outlooks are shared among countries employing food security LSLAs. This chapter analyzed the four case study nations from the previous chapters and found that each has significantly illiberal, nationalist, and mercantilist economic histories and current policies, demonstrating a shared illiberal paradigm among these nations. Thus, it appears that any nation employing food security LSLAs likely subscribes to such a paradigm.

Fundamentally, this thesis finds that LSLA food security strategies lie at the center of a complex matrix of food security, economic, historical, and cultural factors, and that nations pursuing such a policy, even if different by most other measures, will likely share these factors. Further, this thesis corrects deficiencies in the literature, mainly
by describing the highly intricate and complex long-term conditions faced by LSLA-pursuing countries and by examining how LSLAs fit within a broader set of food security objectives, responses, and strategies in these states. Moreover, this thesis demonstrates that LSLAs are certainly not solely short-term reactions to the Global Food Crisis, but rather a long-term effort by nations to secure food resources in response to projected enduring domestic food security challenges while minimizing the perceived “dangers” of market-based solutions to these concerns. Such policies are entirely consistent with these nations’ economic outlooks and mirror their strategies in additional areas, such as oil and other natural resources.

This thesis and the LSLA issue in general raise a number of nuanced theoretical and applied questions, which, although beyond the scope of this study, are also exceptional areas for future research if there were to be additional chapters of this thesis. One of the most essential questions that should be analyzed in the future is: does this strategy make sense, from a global food security, an investor nation’s food security, and a host nation perspective?

From a world food security perspective, it is possible that these land acquisitions could vastly increase food production. If national and industrial investment in agriculture can increase the amount of land in cultivation and raise the productivity of land, it is possible that such investments could expand overall food production and lower world food prices, increasing food security; even if the crops are entirely exported to investor nations and never see the world market, the consumption of these crops will inherently satisfy a portion of investor nations’ food demand, thus reducing their dependence on (and world demand of) import markets, decreasing world food prices. Given substantial
projected increases in food demand, such policies may have value if they can bring more land into cultivation and match world supply with demand. A valuable future study or potential future chapter could analyze how much land, at current production levels, might be necessary to match food supply with projected demand to stabilize world prices.

One caveat to this potential benefit, however, involves the “type” of agriculture utilized to increase crop production, as unsustainable farming can lead to environmental degradation and a failure to produce crops. One key example is the American “Dust Bowl” phenomenon “during the 1930s;” as “agricultural production began to expand substantially on the American Plains, and native grasslands were increasingly plowed up for crops,” “severe drought…which led to widespread crop failures,” combined with “loss of ground cover,” “made farmland susceptible to self-perpetuating dust storms (wind erosion) and substantial runoff during occasional heavy rains (water erosion).”732 More sustainable land uses, “where productivity was less affected by erosion and production was less likely to cause additional erosion,” such as for “hay and pasture” over “wheat and other row crops” was hindered by “land tenancy” practices, as “tenants’ short-term incentives were thought to encourage the overuse of land.”733 Thus, as cited by the “[U.S. government-established] Great Plains Committee,” unsustainable farming driven by a short-term focus played a major role in the crisis, including factors such as “high rates of farm tenancy and absentee landlords [causing] over-production of crops relative to livestock,” “[a] lack of farm improvement/long-term planning,” “expansion of

farming into marginal areas,” “over-cultivation of small landholdings,” and “undue
dependence on wheat as a cash crop.”734

Given that LSLAs typically result in the expansion of agriculture and an increase
in cultivated land, unsustainable farming techniques, as exemplified by the “Dust Bowl,”
could exacerbate the conditions that LSLAs are employed to solve. Since industrial
agriculture, which is used heavily in LSLAs, has been criticized by some scholars as
“eroding biodiversity,” “polluting soil, water, and air” with “synthetic chemical
pesticides and fertilizers,” “eroding [soil] much faster than it can be replenished – taking
with it the land’s fertility and nutrients” and “[consuming water] at unsustainable rates,”
failure to implement farming techniques that avoid these negative outcomes could cause
crop failures and environmental damage.735 Under such conditions, LSLAs would lose
their value while also harming host nation environments. However, since LSLAs tend to
be long-term investments, designed to produce food to meet future demand, it is certainly
possible that investors will take a long-run view and will not succumb to the “short-term
incentives” of 1930s American tenant farmers.736 If investors do consider long-term
effects, LSLAs could raise the world’s food supply, benefitting global food security; thus,
future research should examine LSLAs’ farming practices to determine their current
sustainability and suggest improvements.

From an investor country’s food security perspective, the benefits of LSLAs are
debatable. Investor countries could import a significant portion of crops from host nations

734 Robert A. McLeman et al., "What we learned from the Dust Bowl: lessons in science, policy, and
735 Leo Horrigan, Robert S. Lawrence, and Polly Walker. "How Sustainable Agriculture Can Address the
Environmental and Human Health Harms of Industrial Agriculture." Environmental Health Perspectives
736 Hornbeck, "The Enduring Impact of the American Dust Bowl," 1480.
through LSLAs, however, given the large populations of many investor countries (such as China and India), the benefit is likely marginal; for smaller nations, such as Saudi Arabia, South Korea, Singapore, or Qatar, the outcome of LSLAs is likely more optimistic, as these nations have to support the food consumption of much smaller populations. Nevertheless, as illustrated by this thesis, LSLAs are not the only food security policy employed by investor nations, indicating that even if their production benefit is marginal, this marginal advantage may be beneficial the future; LSLAs may “prime the pump” of further food production by bringing large-scale agriculture to unindustrialized nations with fertile farmland.737 Hence, future studies could be conducted to determine what proportion of investor nations’ food demand can be supplied by LSLAs as well as to investigate whether industrial agricultural investment in host nations can grow fast enough to support these nations’ demand.

A further risk of LSLAs from an investor nations’ viewpoint is host-investor disputes, specifically legal recourse in response to such disputes. The law that backs LSLA deals is primarily “international investment law” and “many…land leases are governed by the terms of Bilateral Investment Treaties” between host and investor nations; these treaties “frequently include provisions promoting national treatment for foreign investors, and providing injured foreign investors with access to State-investor international arbitration.”738 In the event of a breach, such as if host nations enact policies contrary to the treaties’ terms, investors may seek arbitration at the International Centre

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737 Pearce, The Land Grabbers: The New Fight Over Who Owns the Earth, viii.
738 Telesetsky, "Resource Conflicts over Arable Land in Food Insecure States," 302.
for Settlement of Investment Disputes (at the World Bank), which could require compensation to be paid by the breaching party.\textsuperscript{739}

While arbitration may economically compensate for host policies encroaching on investors’ property, it would not benefit an investor country if, for example, host nations decide to ban food exports in response to a food crisis; further, there is always a risk of political unrest or land nationalization, which may be more likely during a crisis, potentially reducing investor nations’ ability to rely on LSLAs. Moreover, given that, as scholars such as Welzer have speculated, “the consequences of climate change are…shortages of water, declining food production, increased health risks and land degredation and floods that reduce living space,” there may be increased environmental-based conflict and crises in the future.\textsuperscript{740} In any such crisis, the effectiveness of international arbitration may be dubious and would certainly not result in increased food production for the investor nation. Hence, future research could categorize past disputes or predict whether future disputes might lead to external international legal settlement, bilateral negotiations by host and investor nations, or even outright conflict, especially in the case of shifting environmental conditions.

Furthermore, even if they perform exactly as intended, LSLAs may create additional challenges for investor nations. Each country analyzed in this thesis has promoted farm employment or farmers’ income as a key goal of its agricultural policies, in addition to absolute food production and security. If LSLAs become “too” successful, such that they produce a substantial proportion of an investor nation’s food, the entry of LSLA crops into the domestic food market could reduce prices and harm incomes in the

\textsuperscript{739} Telesetsky, “Resource Conflicts over Arable Land in Food Insecure States,” 303, 305.

domestic agriculture industry, contradicting these nations’ farm income goals; the greater
the percentage of crops “re-exported” to the host nation (which varies by nation and
circumstances), the more dangerous this effect. Additionally, if the domestic market is
flooded with LSLA crops, it may incent farmers to seek alternative employment, which
would further exacerbate these nations’ food security challenges of falling agricultural
labor supply and urbanization. Thus, future scholarship could determine what level of
LSLA crop “imports” would be sustainable for domestic agriculture and what policies
could be implemented to mitigate this challenge.

Lastly, the question of whether LSLAs benefit or make sense for host nations
could be addressed by future research (and has been already analyzed substantially in the
literature). In theory, LSLAs could bring investment and industry to developing nations,
potentially raising economic growth, employment, food production, etc., while also
providing rent from investors. Further, as noted previously, such investments could raise
world food supplies, lowering prices (even if the crops are exported). However, LSLAs
also have the potential to displace populations, since even “‘idle’ or ‘marginal’ land” can
be owned or used by “groups such as nomadic herders who depend on land at certain
times of the year;” moreover, marginal land can “be productive in other terms – for
hunting, gathering, or pastoralism,” and LSLAs preclude these activities.⁷⁴¹ Therefore, in
the future, scholars could determine if and under what conditions LSLAs benefit host
nations, what protections do and should exist for local landowners, and whether LSLAs
are a net benefit for host nations and local populations.

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Beyond these broader questions, there exist myriad areas of additional future research that could be based on the specific findings of this thesis. For example, additional case study nations could be investigated to further determine the extent to which the results of this thesis can be considered general. For scholars conducting such an investigation, it would be valuable to select case study nations that reflect an even more diverse range of national circumstances; thus, Singapore would be beneficial to study, given its unique position as a city-state. Likewise, examining nations outside the “top 18” (see Appendix 5 and page 71) could establish whether these nations’ LSLAs differ from those within this group.

In addition to strengthening these findings’ “generalizability,” further aspects of LSLAs could be explored. For example, scholars could study cases in which a nation faces the food security and underlying economic conditions described in this thesis but does not decide to pursue LSLAs; if such cases exist, their examination could explain why these conditions lead to LSLAs in some circumstances and do not in others. Moreover, the link between biofuels production and LSLAs could be developed more thoroughly, given the competition between food and “fuel” crops; this thesis’ results could be applied to biofuel LSLA investor nations to determine similarities. Finally, additional cultural, historical, social, environmental (water, climate, etc.), or political factors could be analyzed in case studies to determine if there are further direct or underlying motivations of food security LSLAs.

Lastly, future research could use the results of this thesis to analyze varying “camps” of academic literature in greater depth. As touched on in the first and second Literature Reviews, there is a long history of diverse scholarly opinion on the links
between population growth and food scarcity. For example, Malthus asserts that food scarcity provides “a strong and constantly operating check on population” while Ricardo maintains that when food is scarce, its price increases and populations will farm more or reproduce less.\textsuperscript{742,743}

These debates have continued into the present day. Hence, while neo-Malthusians such as Ehrlich have predicted massive famines due to overpopulation, other scholars have questioned this outcome;\textsuperscript{744} Boserup, for example, argues, “in many cases the output from a given area of land responds far more generously to an additional input of labor” and “population growth is…the independent variable which…is a major factor in determining agricultural developments.”\textsuperscript{745} Likewise, scholars such as Rosenberg, Hallam, and Eccleston cite technology as protecting against Malthusian famines; for instance, Rosenberg contends, “there is no obvious reason why the further growth of technological skills should not…continue the shift from dependence upon scarce sources of materials to dependence upon more abundant sources” and, Eccleston claims, “fear of hunger will undoubtedly drive scientific innovation.”\textsuperscript{746,747,748} Thus, future research could examine the selection LSLAs or their ultimate effects to determine if they support specific camps within scarcity scholarship.

LSLAs for food security are a novel, yet historically and culturally based response to modern changes in food demand, supply, and distribution of agricultural resources. They raise numerous questions regarding world food production, the “commodification

\textsuperscript{743} Ricardo, \textit{The Principles of Political Economy & Taxation}, 278.
\textsuperscript{744} Ehrlich, \textit{The Population Bomb}, 3.
\textsuperscript{746} Rosenberg, "Innovative Responses to Materials Shortages," 117.
\textsuperscript{747} Hallam, "International Investments in Agricultural Production," 31.
\textsuperscript{748} Eccleston, "Peak Food?" 16.
of sovereign national territory,” the benefits of industrial agriculture, resource nationalism, and the welfare of developing nations’ populations. As described throughout this thesis, they can also lead to political strife or policy shifts, and can create a negative or colonial perception of investor nations, making them risky and potentially volatile policy tools.

However, given massive projected increases in world food demand and population growth, nations that fear international market mechanisms for supplying agricultural products may have an incentive to pursue such a policy, at the very least as a marginal support of additional food security strategies; LSLAs will become especially valuable for these countries if food producing nations follow past trends during future crises and implement agricultural export restrictions or other barriers to trade. Moreover, if market mechanisms ever fail (possibly due to such restrictions) during this period of rising demand, traditionally import-dependent nations may become concerned over their reliance on import markets; in such a circumstance, it is likely that LSLAs will become increasingly prevalent. Therefore, by examining and uncovering the core and secondary motivations driving these investments, this thesis should provide insights to policymakers and scholars that may prove helpful in predicting which nations might select this strategy, especially during a rapidly approaching period of increased food demand coupled with potential limits to supply expansion.

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### APPENDIX 1: Land Matrix Data – China Agricultural LSLA Deals

<table>
<thead>
<tr>
<th>#</th>
<th>Target Country</th>
<th>Location</th>
<th>Investor</th>
<th>Intention</th>
<th>Deal Status</th>
<th>Execution Status</th>
<th>Size: Intent (ha)</th>
<th>Size: Deal (ha)</th>
<th>Deal Type</th>
<th>Crop</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Benin</td>
<td>Savè</td>
<td>China National Complete Plant Import &amp; Export Corporation</td>
<td>Agriculture, Renewable Energy</td>
<td>[2001] Concluded (Contract signed)</td>
<td>[2001] In operation (production)</td>
<td>4800</td>
<td>4800</td>
<td>Lease/ Concession</td>
<td>Sugar Cane</td>
</tr>
<tr>
<td>2</td>
<td>Sierra Leone</td>
<td>Tonkolili, Sierra Leone</td>
<td>China National Complete Plant Import &amp; Export Corporation</td>
<td>Agriculture, Renewable Energy</td>
<td>[2009] Concluded (Contract signed)</td>
<td>[2005] In operation (production)</td>
<td>3000</td>
<td>1222</td>
<td>Cassava (Maniok), Sugar Cane</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Nigeria</td>
<td>Nigeria</td>
<td>Chongqing Seed Corp</td>
<td>Agriculture</td>
<td>Concluded (Contract signed)</td>
<td>[2006] In operation (production)</td>
<td>300</td>
<td>300</td>
<td>Rice (hybrid)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Lao People's Democratic Republic</td>
<td>Pha Oudom, Laos</td>
<td>Jiafeng</td>
<td>Agriculture</td>
<td>Concluded (Contract signed)</td>
<td>[2006] Startup phase (no production)</td>
<td>3000</td>
<td></td>
<td>Rubber</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Lao People's Democratic Republic</td>
<td>Bokeo, Laos</td>
<td>Kunming Ruipu Biotechnology Co. Ltd.</td>
<td>Agriculture</td>
<td>Concluded (Contract signed)</td>
<td>[2006] Startup phase (no production)</td>
<td>3000</td>
<td></td>
<td>Rubber</td>
<td></td>
</tr>
</tbody>
</table>

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Note: Land Matrix, Get the Detail: China.
<table>
<thead>
<tr>
<th>No.</th>
<th>Country</th>
<th>Location</th>
<th>Company Names</th>
<th>Sector</th>
<th>Year of Conclusion</th>
<th>Nature of Agreement</th>
<th>Operations Status</th>
<th>Rubber/Lease</th>
<th>Cashew/Teak</th>
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</thead>
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<td>7</td>
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<td>Bokeo, Laos</td>
<td>Leilin Agriculture</td>
<td>Concluded (Contract signed)</td>
<td>2006</td>
<td>Startup phase (no production)</td>
<td>1500</td>
<td>Rubber</td>
<td></td>
</tr>
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<td>8</td>
<td>Lao People's Democratic Republic</td>
<td>Bokeo, Laos</td>
<td>Luhang Agriculture</td>
<td>Concluded (Contract signed)</td>
<td>2006</td>
<td>Startup phase (no production)</td>
<td>4000</td>
<td>Rubber</td>
<td></td>
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<tr>
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<td>Cambodia</td>
<td>Stung Treng, Stung Treng</td>
<td>GG World Group (Cambodia) Development Co. Ltd.</td>
<td>Concluded (Contract signed)</td>
<td>2005, 2007</td>
<td>In operation (production)</td>
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<td>Lease/Concession</td>
<td>Cashew, Teak</td>
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<td>Lease / Concession</td>
<td>Accacia, Rubber, Teak, Trees</td>
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<tr>
<td>13</td>
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<td>Bokeo, Laos</td>
<td>Deshang</td>
<td>Agriculture</td>
<td>2007</td>
<td>Startup phase (no production)</td>
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<td>Lease / Concession</td>
<td>Rubber</td>
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<td>Jinsen</td>
<td>Agriculture</td>
<td>2007</td>
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<td>Jiin Fuhua Agro Science and Technology Development Co. Ltd.</td>
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<td>Lilieng Biological Development Co.</td>
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<td>2009</td>
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<td>Province</td>
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<td>Year 3</td>
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<td>Agriculture</td>
<td>[2012] Concluded (Contract signed)</td>
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<td></td>
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<td>Date of Conclusion</td>
<td>Type of Agreement</td>
<td>Land Area</td>
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<td>47</td>
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<td>Ve Wong Corporation</td>
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<td>ZTE</td>
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<td>30231</td>
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<td>57</td>
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<td>58</td>
<td>Lao People's Democratic Republic Vientiane, Laos Lilieng Power Co. Ltd.</td>
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<td>Concluded (Contract signed)</td>
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<td>Lease / Concession</td>
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<td>Year</td>
<td>Value (USD)</td>
<td>Product(s)</td>
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<td>59</td>
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<td>Laos</td>
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<td>50000</td>
<td>Cassava (Maniok), Rice</td>
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<td>62</td>
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<td>Ruizhao Sunway International</td>
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<td>[2010]</td>
<td>500</td>
<td>Lease / Concession</td>
<td>Peanut, Sesame</td>
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<td>63</td>
<td>Philippines</td>
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<td>Agricultural Department of the Guangxi Zang Autonomous Region (ADGZAR)</td>
<td>Agriculture</td>
<td>[2007]</td>
<td>40000</td>
<td>Cassava (Maniok), Sugar Cane</td>
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<td>64</td>
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<td>China CAMC Engineering Co., Ltd.</td>
<td>Agriculture</td>
<td>[2007]</td>
<td>10000</td>
<td>Sugar Cane</td>
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<tr>
<td>65</td>
<td>Philippines</td>
<td>San Mariano, Philippinen, Delfin Albano, Philippinen</td>
<td>GCO</td>
<td>Agriculture</td>
<td>[2010]</td>
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<td>6000</td>
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<td>66</td>
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<td>1500</td>
<td>1500</td>
<td>Sweet Potatoes, Cassava (Maniok)</td>
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<td>4000</td>
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<td>68</td>
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<td>Chongqing Seed Corp</td>
<td>Agriculture</td>
<td>[2008] Intended (Expression of interest), Concluded (Contract signed)</td>
<td>300</td>
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<td>Rice (hybrid)</td>
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**APPENDIX 2: Land Matrix Data – South Korea Agricultural LSLA Deals**

<table>
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<th>Investor</th>
<th>Intention</th>
<th>Deal Status</th>
<th>Execution Status</th>
<th>Size: Intent (ha)</th>
<th>Size: Deal (ha)</th>
<th>Deal Type</th>
<th>Crop</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Cambodia</td>
<td>Santuk District, Kampong Thom Province</td>
<td>BNA (Cam) Corp</td>
<td>Agriculture</td>
<td>[2009] Concluded (Contract signed)</td>
<td>7500</td>
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<td>Phnom Srouch, Kampong Speu Province</td>
<td>CJ Cambodia Co., Ltd., CJ Corporation, Muhack Alcohol Co. Ltd.</td>
<td>Agriculture</td>
<td>[2001] Concluded (Contract signed)</td>
<td>Startup phase (no production)</td>
<td>5000</td>
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<td>Lease / Concession</td>
<td>Cassava (Maniok)</td>
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<td>Ratanakkiri, Kambodscha</td>
<td>Oryung Construction</td>
<td>Agriculture</td>
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<td>6866</td>
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<td>Rubber</td>
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<td>Snoul District, Kratie Province</td>
<td>PDA (Cambodia) Co. Ltd.</td>
<td>Agriculture</td>
<td>[2009] Concluded (Contract signed)</td>
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<td>5256</td>
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<td>Accacia, Cassava (Maniok), Rubber</td>
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<td>10000</td>
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<td>Nonghyup Feed Inc., Daewoo Logistics</td>
<td>Agriculture</td>
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<td>[2009] Startup phase (no production)</td>
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<td>Corn (Maize)</td>
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<td>Gaecumnam</td>
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751 Land Matrix, *Get the Detail: Republic of Korea.*
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<th>Company/Unit</th>
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<th>Lease/Concession</th>
<th>Product(s)</th>
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<td>Changhae International</td>
<td>Agriculture</td>
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<td>Korindo Group</td>
<td>Agriculture</td>
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<td>Korindo Group</td>
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<td>POSCO</td>
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<td>Komor Enterprise Limited</td>
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### APPENDIX 3: Land Matrix Data – Saudi Arabia Agricultural LSLA Deals

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<th>Investor</th>
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<th>Deal Status</th>
<th>Execution Status</th>
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<th>Size: Deal (ha)</th>
<th>Deal Type</th>
<th>Crop</th>
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<td>Planet World Food</td>
<td>Agriculture</td>
<td>[2009] Concluded (Contract signed)</td>
<td>[2009] In operation (production)</td>
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<td>Concluded (Contract signed)</td>
<td>Fruit, Vegetables</td>
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<td>Chaco</td>
<td>Alkhorayef Group</td>
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<td>Lease / Concession</td>
<td>Cereals (no specification), Rice (hybrid), Sorghum, Soya Beans, Wheat</td>
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<td>Lease / Concession</td>
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<td>MIDROC Group</td>
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<td>In operation (production)</td>
<td>1800</td>
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<td>Pineapple</td>
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*^{752} Land Matrix, Get the Detail: Saudi Arabia.*
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<th>Company</th>
<th>Industry</th>
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<td>Sudan</td>
<td>Hail Agricultural Development Company (HADCO)</td>
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<td>Concluded (Oral Agreement)</td>
<td>8888</td>
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<td>Nadeec</td>
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<td>17</td>
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<td>Rubber, Accacia</td>
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<td>Prince Bdr Bin Sultan</td>
<td>Agriculture</td>
<td>2010</td>
<td>Concluded (Contract signed)</td>
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## APPENDIX 4: Land Matrix Data – India Agricultural LSLA Deals

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<th>Intention</th>
<th>Deal Status</th>
<th>Execution Status</th>
<th>Size: Intent (ha)</th>
<th>Size: Deal (ha)</th>
<th>Deal Type</th>
<th>Crop</th>
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<tbody>
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<td></td>
<td>7635</td>
<td></td>
<td></td>
<td>Sugar Cane</td>
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<td>2</td>
<td>Indonesia</td>
<td>Kalimantan, Indonesia, Sumatra, Republik Indonesien</td>
<td>KS Oils Ltd</td>
<td>Agriculture</td>
<td>[2008] Concluded (Contract signed)</td>
<td>[2008] Startup phase (no production), [2010] In operation (production)</td>
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<td>Oil Palm</td>
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<td>3</td>
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<td>Malaysia</td>
<td>KS Oils Ltd</td>
<td>Agriculture, Industry</td>
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<td></td>
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<td>Oil Palm</td>
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<td>4</td>
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<td>Estado de Paraná, Brasil</td>
<td>Shree Renuka Sugars</td>
<td>Agriculture</td>
<td>[2010] Concluded (Contract signed)</td>
<td>In operation (production)</td>
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<td>Wanke, Ethiopia</td>
<td>Bharat Herballs &amp; Oils (BHO)</td>
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<td>[2010] Concluded (Contract signed)</td>
<td>[2012] Project not started</td>
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<td>Cereals (no specification), Cotton, Oil Seeds, Rice, Jatropha</td>
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<td>Lease / Concession</td>
<td>Corn (Maize), Oil Palm, Rice, Sugar Cane</td>
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753 Land Matrix, Get the Detail: India.
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<th>Contract Year(s)</th>
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<th>Tenure Type</th>
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<td>Bandira, Ethiopia</td>
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<td>Startup phase (no production)</td>
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<td>Oromia, Ethiopia</td>
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<td>In operation (production)</td>
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<td>Gurse, Mozambique</td>
<td>HK Jalan Group, Forestry</td>
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<td>25</td>
<td>Madagascar</td>
<td>Diana, Madagascar</td>
<td>Unnamed investor 153</td>
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<td>Cambodia</td>
<td>Kor Ky and Ampel commune, Romeas district, Svay Rieng province</td>
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<td>Concluded (Contract signed)</td>
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<td>McLeod Russell India Limited</td>
<td>Agriculture, Forestry</td>
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<td>Rufiji River, Tanzania</td>
<td>Eurovistaa Trading Co. Ltd</td>
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<td>Tirupati Sarjan Limited</td>
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APPENDIX 5: Land Matrix Data – Top LSLA-Pursuing Nations by Number of Deals

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<th>Number of Agricultural Deals</th>
<th>Size of Agricultural Land Acquisitions (ha)</th>
<th>Food Security LSLA Strategy?</th>
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<td>United Kingdom</td>
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<td>4</td>
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<td>Japan</td>
<td>10</td>
<td>155100</td>
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Note: The values in this table are approximate and may include closed or cancelled deals; since this chart is only meant to depict which nations (as a total) are most active in LSLAs (of any type), some data have been omitted, such as Hong Kong-specific LSLAs. For a more robust analysis of the values and specific land deals for the case study nations covered in this thesis, please see nation-specific appendices and case study “Results” sections.

---

754 Land Matrix, Get the Detail: By Intention of Investment.
### APPENDIX 6: FAOSTAT Data – Example Crop Import Dependency Ratios

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<th></th>
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<td>China</td>
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<td>78.14</td>
<td>17.8</td>
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<tr>
<td>South Korea</td>
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<td>90.41</td>
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<td>India</td>
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<td>14.37</td>
<td>46.85</td>
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Note: All values except the “Cereal Import Dependency Ratio” are self-calculated using FAOSTAT “Food Balance Sheets” data. Thus, all other values are approximate and, while calculated using the same formula as described by the FAO for the “Cereal Import Dependency Ratio” \((\text{Quantity Imported}/(\text{Quantity Produced} + \text{Quantity Imported} – \text{Quantity Exported}))\), may not account for all factors included in FAO official calculations. Each ratio is based on a three-year average, with the year displayed being the “middle” year. Lastly, the crops analyzed have been chosen for their importance to the case study nations; as noted in the Results sections of the first two chapters, staple cereal grains are critical to all four states, soybeans are used heavily in China, pulses are vital for India, and vegetable oils play a major role in agricultural demand in many nations, but especially in India. A key factor to note when viewing these data is that a smaller ratio for a larger population nation may be, in absolute terms, a larger dependency than a larger ratio for a smaller population nation; national income levels may also influence the perceived challenges of dependency.

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\(^{755}\) United Nations Food and Agriculture Organization, FAOSTAT - Compare Data.

\(^{756}\) United Nations Food and Agriculture Organization, FAO Statistical Yearbook 2013 World food and agriculture, 111.
BIBLIOGRAPHY


Barclay, Kate, and Graeme Smith. "Introduction: The International Politics of


Cao, Li-Juan, Wei-Ming Tian, Ji-Min Wang, Bill Malcom, Hong-Bo Lio, and Zhang-Yue


Department of Economic Affairs. *Terms and Conditions and Procedure to be adopted in...


Dutta, Ratnajyoti. "India has no plans to buy farmland abroad - agriculture min." *Reuters India*, March 5, 2012.


Ezell, Stephen. "Written Statement to the U.S. House of Representatives Committee on Ways and Means Trade Subcommittee." *Hearing on U.S.-India Trade Relations:*


investor_country.


Lippman, Thomas W. "Saudi Arabia's Quest for 'Food Security'." *Middle East Policy* 17, no. 1 (Spring 2010): 90-98.


Mehrotra, Santosh. "In India, non-agricultural sectors are driving employment; more workers deserting farms." The Economic Times, February 10, 2014.


Mohanty, Deepak. Why is recent food inflation in India so persistent? Speech by Mr. Deepak Mohanty, Executive Director of the Reserve Bank of India, Mumbai: Bank for International Settlements, 2014.


Pearce, Fred. *The Land Grabbers: The New Fight Over Who Owns the Earth*. Boston:


Robertson, Beth, and Per Pinstrup-Adnersen. "Global Land Acquisition: neo-colonialism or development opportunity?" *Food Security* 2, no. 3 (September 2010): 271-283.


Spillius, Alex. "China 'to rent five per cent of Ukraine'." *The Telegraph*, September 24, 2013.


Trethewie, Sally. "Is the ASEAN Plus Three Emergency Rice Reserve (APTEERR) the Answer to Southeast Asia's Food Security Challenges." *NTS Alert* (S. Rajaratnam School of International Studies), February 2013.


Wignaraja, Ganeshan. "India's Approach to Economic Reforms." *Policy Studies,* no. 60


Winston & Strawn LLP. *PRC issues guidelines to encourage private enterprises to invest abroad (Translation of Implementing Opinions on Encouraging and Guiding Private Enterprises to Make Active Investment Abroad).* Beijing, August 23, 2012.


Zeng, Ka. "Multilateral versus Bilateral and Regional Trade Liberalization: explaining China’s pursuit of free trade agreements (FTAs)." *Journal of Contemporary*


Zhao, Suisheng. "The China Model: can it replace the Western model of modernization?" Journal of Contemporary China 19, no. 65 (June 2010): 419-436.

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