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Two Hundred Years of “Development”:

“High Modernism,” Water and People in South Sudan

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Abstract

Emerging from decades of war, yet still stricken by poverty, political instability, health issues and food insecurity, South Sudan has entered a new era of development and nation-building. Speaking at the 2011 UN General Assembly, Salva Kiir, President of South Sudan, formally invited the international development community to the new nation, stating, “our march out of the abyss of poverty and deprivation into the realm of progress and prosperity is going to be a long one and that is why we need you to partner us on this difficult journey” (Kiir 2011). While the international community has provided Southern Sudan with humanitarian assistance for decades, only now are they stepping into the role of planning and implementing development projects to “improve” South Sudan’s economy, infrastructure and social services.

Taking the emergent forms of developer involvement in South Sudan as a starting point, this study examines whether the development community has translated decades of scholarly critique (e.g. De Waal 1989, 2005; Ferguson 1990; Sachs 1992; Scott 1976, 1998; Scudder 2005, 2009) into improved practice. To do so I compare the planning stages of two instances of “development” in South Sudan: colonial (Anglo-Egyptian) and post-colonial (contemporary). As the development community is involved in many sectors of South Sudanese society, I have narrowed my focus to instances of hydro-development, namely the Jonglei Canal (Anglo-Egyptian project) and the current push for agricultural expansion, which will require intensive irrigation schemes to reach desired outcomes. In this study I argue that while nearly two hundred years have passed since the onset of Anglo-Egyptian “development” in Southern Sudan, contemporary development actors in South Sudan hold the same “high modernist” biases which have in the past produced harmful and unintended consequences for affected populations.
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Chapter 1: Introduction

A new chapter in Sudanese history began in Naivasha, Kenya on January 9, 2005 when the Government of Sudan and the Sudan People’s Liberation Movement (SPLM) signed the Comprehensive Peace Agreement (CPA) formally ending Sudan’s twenty-two year civil war. Brokered by the international community, the agreement established power and resource sharing agreements between the North and South and made provisions for four referendums to be held in 2011: the first allowing the South to vote for its independence; the second giving the oil-rich Abyei region the option to join the North or South; with the third and fourth allowing for the Sudanese states of the Nuba Mountains and the Blue Nile to vote for more autonomy. While the agreement did not bring a halt to conflict between the North and South, violent confrontation dwindled in favor of a war of words. Questions of oil, division of national debt, and Khartoum’s willingness to cooperate with an independent South Sudan have dominated the (trans)national debate since the CPA.

No nation exists in isolation, and thus the future of Sudan held implications for the international community. Considering South Sudan's wealth of oil reserves and geostrategic location, foreign governments had more invested in the peace process relative to previous conflicts in Africa (Rwanda and the Democratic Republic of the Congo). Since the signing of the CPA, China and the United States have been actively involved in Sudanese politics, hoping to gain (United States) or sustain (China) access to Sudan’s oil reserves. Eager to establish new alliances in the region and see Sudan’s oil reserves in friendly hands, the United States strongly advocated for South Sudan’s independence. For example, in November 2010, U.S. Senator John Kerry offered to remove Khartoum from a list of state
sponsors of terrorism if the 2011 referendum went ahead peacefully – in August 2011 the State Department retracted its offer and Sudan remains blacklisted. China on the other hand, who has historically relied on Khartoum for fuel, also began to work with both northern and southern governments to secure a peaceful transition. It is clear that South Sudan’s oil reserves have received overwhelming attention from the international community, and scholarship has also followed this trend; however, an often under discussed resource will, I argue, play a more formative role in Sudan’s future: water. With this in mind, perhaps it is best to reexamine the advent of the CPA and South Sudan’s recent independence.

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A new chapter in South Sudanese history began as celebrations erupted in the streets of Juba on July 9, 2011 following its independence. Eager to move beyond its history of relative poverty, economic and infrastructural inadequacies, as compared to its previous northern counterpart, the Government of South Sudan (GoSS) has actively sought the assistance of the international “development” community (Kiir 2011). Considering that nation’s inability to build a sustainable economy on finite and contested oil reserves, the development community has prioritized large scale agricultural growth, which it believes will boost South Sudan’s economy and food security (Barber 2011; European Union 2011; Norwegian People’s Aid 2011; The United Nations 2011; USAID 2011). While the region’s agricultural potential is vast – considering the abundance of (“unclaimed”) fertile land and water from rivers and rainfall – obstacles such as flooding and a lack of irrigation schemes currently inhibit a smooth transition to large scale agriculture (De Mabior 1980). Thus, in

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1 Building from Ferguson (1990) and Scott (1998) this study problematizes the concept of “development.” I recognize that while development projects may be well intentioned, their outcomes are often outside the control of project planners due to the simplistic and “scientific” worldview of social planners, which cannot account for local realities, human and environmental.
order for South Sudan to achieve its “full” agricultural potential, small dams, canals and irrigation schemes will be necessary. As seen in the past with the Jonglei Canal and Aswan High Dam – expanded upon in Chapter 5 – hydro-projects such as dams and canals go hand in hand with the creation of large “modern” agricultural operations. Hydro and agricultural development are inseparable and the question of South Sudan’s water as a resource for agricultural development will be of paramount importance in the country’s formative years.

Time and again scholars have critiqued development initiatives for failing to positively impact the lives of affected populations (e.g. De Waal 2005; Ferguson 1990; Sachs 1992; Scott 1976, 1998; Scudder 2005, 2009). Now, with international funds flooding South Sudan and the international community shifting from providing humanitarian aid to assuming a role of development assistance, scholars are presented with an excellent opportunity to examine whether the development community has translated such critiques into improved practice. In this thesis, I take agriculture and water as a point of departure to document emergent discourse regarding plans to develop South Sudan. I analyze this discourse in relation to both the unfolding narrative of colonial and post-colonial intervention in Sudan over the past two hundred years and the critical scholarly literature on development and forced displacement and resettlement. This research, therefore, contributes to a very small, but rapidly growing, body of literature on development initiatives in a nation that, of this writing, has yet to mark its first year of independence.

Working on a project where so much is in flux presents real challenges to the researcher. For instance, South Sudan’s political instability made it impossible for me to conduct research in the region². Similarly, conditions in conflict and post-conflict Sudan

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² As an undergraduate, I would also not have been granted Institutional Review Board permission to conduct
have suppressed other kinds of scholarly endeavors. Given these conditions, the role of development organizations is inflated and they take on a disproportionate role in producing knowledge about South Sudan. Thus, a critical examination of this development discourse literature is an important and – to my knowledge – untouched topic in the literature on South Sudan. Accordingly, I have crafted my thesis on the information available to me. While I could have conducted interviews with development personnel who have worked in South Sudan, I opted to analyze what they put in the public sphere in lieu of what they may have revealed in anonymous interviews. I recognize that many individuals involved in developing South Sudan may be personally invested and that their personal views may not accord with their institution’s approach. The level of the individual development worker is, however, beyond the scope of my analysis. In the absence of interviews with members of the development community, I have conducted a qualitative analysis of development reports and articles to explore how Non-Governmental Organizations (NGOs) and Inter-Governmental Organizations (IGOs) are approaching development in South Sudan.

In order to analyze development in South Sudan I have consulted the theoretical frameworks laid out by Ferguson (1990) and Scott (1998), De Waal’s analysis of humanitarian aid in Darfur, Sudan (1989, 2005) and Scudder’s work on forced migration and resettlement (2005, 2009). I have also considered Sudan specific literature consulting past ethnographic research (Evans-Pritchard 1940), colonial era Southern Sudanese history in the form of 19th century Western travel narratives and turn of the 20th century New York Times articles, and scholarly literature on previous agricultural development in the region (De

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3 I acknowledge that had I conducted interviews my study would have taken a different direction, perhaps examining the gap between individual and institutional development interests and approaches.
Mabior 1980) and hydro-projects in Sudan, the Jonglei Canal and Aswan High Dam.

The concept of plus ça change, plus c'est la même chose⁴ best encapsulates the argument that follows. While more than two decades have passed since Ferguson’s pioneering and provocative exploration of the “development” apparatus (1990) – twelve since Scott’s publication of Seeing Like a State – I will show that in the formative stages of development in South Sudan, NGOs, IGOs and the South Sudanese State have maintained the same worldview – understanding societies as unitary, aregional and ahistorical objects of development – which doomed development in Lesotho (Ferguson 1990), the USSR, and Tanzania (Scott 1998) to name but a few examples. In the case of South Sudan I argue that “development” actors, old (Anglo-Egyptian administrators) and new (development organizations), have systematically failed to recognize the inseparable relationship between the South Sudanese and their environment, conditioned by the flow of the Nile River. First, I will show that Anglo-Egyptian officials created an imaginary region for “development,” as a result of what Scott (1998:4) defines as “high modernist” values: “a strong, one might even say muscle-bound, version of the self-confidence about scientific and technical progress, the expansion of production, the growing satisfaction of human needs, the mastery of nature (including human nature), and above all, the rational design of social order commensurate with the scientific understanding of natural laws.” Their flawed understandings of South Sudan gave rise to the poorly planned Jonglei Canal, whose partial construction has permanently and negatively altered the livelihoods of the South Sudanese. Moving to the present, I will show that despite years of scholarly inquiry and critiques of the development community, NGOs, IGOs and the GoSS are approaching agricultural expansion through the

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⁴ The more things change, the more they stay the same.
same “scientific” and “high modernist” lens problematized by Ferguson and Scott. In order for South Sudan to become an “agro-industrial powerhouse,” some of its most fertile regions will have to be reorganized spatially (village collectivization), economically (changes in livelihoods) and environmentally (hydro-development) (De Mabior 1980). However, as a result of “high modernist” worldviews, development actors, on an institutional level, have yet to actively discuss the livelihoods of the South Sudanese and how water relates to agro-development. If this discursive trend continues, it is unlikely that development actors will be able to effectively respond to the possible negative repercussions of agricultural growth such as resettlement. Given the consequences of poorly planned development, in my final chapter, I ask what can be learned from Sudan’s past experiences with agricultural and hydro development. To do so I interrogate the cases of the Jonglei Canal and Aswan High Dam, which both accommodated agricultural expansion and resulted in poor resettlement initiatives for affected populations. The recently published World Commission on Dams report (WCD) serves as a framework for future dam construction and its guidelines seek to protect local populations from repetitions of Jonglei and Aswan. However, I will show that in the case of South Sudan the WCD’s recommendations have yet to translate into practice, indicating the continuation of past harmful approaches to hydro-project planning, implementation and resettlement initiatives.

As a final note, in the late 1970s, John Garang De Mabior⁵ conducted interviews with thousands of Southern Sudanese in areas where agricultural development was to occur. He found that:

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⁵ John Garang de Mabior, a Dinka from Southern Sudan, served as the leader of the Sudan People’s Liberation Army (SPLA) and led the resistance against Khartoum during Sudan’s Second Civil War. The interviews referenced above were conducted as part of his PhD research on agricultural development in Southern Sudan.
The inhabitants of the JPA [Jonglei Projects Area], although poor and illiterate, are nevertheless intelligent, creative and responsive, and will participate in change of whatever magnitude if they perceive such change to be in their interests and that of their posterity. Indeed, the people in the rural areas of the JPA appear to be more interested in change than some of their educated brethren who appear to be mission-bound to protect the Dinka, Nuer or Shilluk ‘way of life’ which they themselves appear to have rejected. (1980:6)

Recognizing the motivations of the South Sudanese to develop their nation’s economy, I do not argue that South Sudan should remain as is; rather, my analysis exposes flaws in the conceptualization of plans for how these changes will occur, as the consequences of poorly planned and executed development can be disastrous.

Framing the Issues:

Douglas H. Johnson, a historian of Sudan, has pointed out that a main weakness of Sudan studies is that Northern Sudan has received “respectful attention and explanation, while the rest of the country is relegated to an exotic periphery” (2003: xvi). For the most part Johnson’s statement holds true, though some scholars have devoted their work to South Sudan in specific. As an example, Stephanie Beswick’s *Sudan’s Blood Memory: The Legacy of War, Ethnicity, and Slavery in South Sudan* (2006) examined the region’s previously unexplored pre-colonial history, while scholars such as Collins (1962, 1983) have examined Southern Sudanese history as part of a larger project on Sudan’s history. In regards to the people of South Sudan, scholars such as Evans-Pritchard (1940) and Sharon Hutchinson (1996) have studied the Nuer, while Francis Deng’s work (1984) focused on the Dinka. Holtzman (2000) and Shandy (2007) have examined the South Sudanese diaspora. Since the Comprehensive Peace Agreement (CPA) in 2005, South Sudan has garnered more scholarly
attention predominantly focusing on potential outcomes of the referendum vote, discussing the likelihood of a return to violence (Arbetman-Rabinowitz and Johnson 2008; and L. Deng 2005), the mutual dependence of both Juba and Khartoum upon each other (Arbetman-Rabinowitz and Johnson 2008), ethnic pluralism and the complexities of building a unitary South Sudanese nationality (Olowu 2011), and the importance and economic potential of Southern oil reserves (Arbetman-Rabinowitz and Johnson 2008; and Sullivan and Nasrallah 2010). Some limited research was also conducted on the hydropolitics of South Sudan’s independence (Ahmad 2008; Sullivan and Nasrallah 2010; and Salman 2011). Little has been written to date on South Sudan’s recent independence. This is likely a function of the timeline for scholarly publishing as well as scholars hedging their bets in the face of uncertain outcomes. Upon this writing, little research has been produced on development, agriculture and the role of water in South Sudan’s future. Given that South Sudan only became independent in July 2011 and the political complications and risks of conducting research in the region, this silence is understandable. Thus, in the absence of contemporary development in South Sudan, I rely on the theoretical frameworks of Ferguson (1990), Scott (1998) and Scudder (2005, 2009) to shape my study.

Simply put, development as an institution and practice has failed to produce its intended goals. Neo-Marxists attribute the shortcomings of development to its capitalist nature, arguing that development actors “only reinforce the system which in the first place causes the poverty” by incorporating “Third World” countries into the global capitalist system (Ferguson 1990:11). James Ferguson complicates Marxist understandings of development in *The anti-politics machine*, where he analyzes the discourse of “development,” concluding that while such “projects” may be well intentioned, the
subsequent effects are far from what planners ever imagined. Capitalism is not the problem with “development” (though it certainly contributes to poor outcomes), rather “development” fails as a result of its own worldview, which this research documents in the case of South Sudan.

Stemming from a lack of local knowledge and understanding of regional and historical realities, “development” organizations reduce countries to “technical problems,” defining underdevelopment through purely economic indicators that they, as Western institutions can understand. As a result, “development” is unable to account for local particularities, such as differing livelihoods, or the seemingly hidden political agenda of certain projects, and may produce unintended negative consequences for affected populations.

While scholarship on the aid industry is vast, I have selected two noteworthy texts to explore “development” discourse and its unintended side-effects: the work of Ferguson (1990) and James Scott’s Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed (1998). When combined, these scholars complement each other to form a framework for understanding the ineffectual nature of “development.” One may query the relevance of 20th century frameworks for 21st century realities; however, as I will show through the case of South Sudan, the “development” industry on the whole has seen little change since the publication of their works.

Prior to James Ferguson’s work, there existed two prominent understandings of the “development” community. The first regarded foreign “aid” to the “Third World” as inherently good, and studied “development” actors “to enable it [them] to perform better, to avoid failures and to maximize its [their] success” (Ferguson 1990:10). Another more radical
view, championed by neo-Marxist scholars, argued that “development” was an industry which produced poverty, by incorporating “Less Developed Countries” (LDCs) into the global capitalist system (Ferguson 1990:11). However, by examining rural development in Lesotho, Ferguson complicated previously held assumptions regarding the intentions and results of “aid” actors, viewing “development” as a discourse; that the failures of the international community in the Third World are a result of the way NGOs understand themselves and the communities they seek to “help.” Below, I summarize key points from Ferguson’s theory to illustrate the discursively based failings of “development.”

Ferguson’s primary argument is that “development” fails to bring about its intended “improvements” to society due to the self-proclaimed anti-political nature of its enactors. Accordingly, NGO’s construct an aregional and ahistorical country to “develop,” and thus, subsequent “projects” are unable to address the structural, underlying problems that contribute to poverty within a given society. For example, the theoretical construction of Lesotho, the ethnographic “site” of Ferguson’s study, “...can be presented in “development” discourse as a nation of farmers, not wage laborers; a country with a geography, but no history; with people, but no classes; values, but no structures; administrators, but no rulers; bureaucracy, but no politics. Political and structural causes of poverty in Lesotho are systematically erased and replaced with technical ones...” (Ferguson 1990:66). As a result of this imaginary Lesotho, “development” actors attributed the country’s poverty to the absence of a “national economy,” and believed that they could facilitate economic “improvement” through road building projects, for example. Not surprisingly, the infrastructural “development” brought by NGOs did little to address poverty alleviation and produced unintended and unforeseen changes to Lesotho. Rather than addressing poverty, the
construction of roads bolstered state power, granting the central government control over previously inaccessible communities. To quote Ferguson: “The “development” apparatus in Lesotho is not a machine for eliminating poverty that is incidentally involved with the state bureaucracy; it is a machine for reinforcing and expanding the exercise of bureaucratic state power, which incidentally takes “poverty” as its point of entry...” (Ferguson 1990:254). As demonstrated, Ferguson’s critique of “development” in Lesotho moves beyond previously held understandings of the “aid” industry. Scholars should no longer understand “development” as a “practical tool for the solution of universal problems” (solution: help NGOs see what they’re doing wrong) or as an extension of poverty inducing capitalism (solution: end capitalism); rather, “development” should be understood as a discourse, which produces unintended side-effects. So, how does one overcome the “development” problematic? Ferguson concludes that poverty alleviation must be realized by the local populations that will be directly affected, and that “development” cannot be brought by the State or through NGOs.

Although James Scott's *Seeing Like a State* focuses primarily on sovereign “development” projects – that is to say when States, rather than extra-national third parties, seek to improve the lives of their own populations – his conclusions are invaluable to understanding the failures of the “development” industry. Scott argues that “schemes to improve the human condition” have failed due to “an authoritarian disregard for the values, desires, and objections of their subjects,” masked by the strictly quantitative worldview held by “development” actors such as, engineers, bureaucrats and scientists. Often operating far from sites of development, States and NGOs have enforced what Scott terms as “legibility,” a central process of modern statecraft, upon people and the environment. “The premodern state
was, in many crucial respects, partially blind: it knew precious little about its subjects, their wealth, their landholdings and yields, their location, their very identity. It lacked anything like a detailed ‘map’ of its terrain and people” (1998: 2). In order to control people and the environment, state officials created a “standard grid” to understand “illegible and local social practices.” Censuses, maps, “the design of cities,” “the creation of permanent last names, the standardization of weights and measures,” and “the organization of transportation” all served as tools to reduce local knowledge to comprehensible information for state bureaucrats (Scott 1998:2). The problem with these “scientific” tools is that they understand nature and people as constant, with no consideration for local geography, environmental conditions, culture or livelihoods, and as a result are unable to meet their intended goals. Like Ferguson, Scott argues that the failures of “development” are linked to the ways in which “aid” actors view the countries they seek “help;” however, Scott envisions an alternative solution to the “development” problematic and believes that social planning can be improved by sacrificing legibility and incorporating mētis, local knowledge, into project plans.

In Seeing Like a State, James Scott explains that the origins of purely quantitative representations of nature and society are grounded in the practice of scientific forestry in 19th century Prussia. Scientific forestry, emerging as a result of economic tunnel vision, viewed nature as something that could be controlled and reorganized for the benefit of man. In order to undertake forestry on such a large scale, scientists and European states began to view forests from a macro perspective, reducing the forest to legible statistical data, replacing “the actual tree with its vast number of possible uses... [with] an abstract tree representing the volume of lumber or firewood” (Scott 1998:12). Following the reduction of nature to numbers and statistics came efforts to redesign and normalize nature into something that man
could easily control. Scott contends that this bird’s eye view of the forest (society), where the actual tree (individuals) is reduced to an abstract tree (demographic statistics), and subsequent efforts to normalize forests were doomed to fail their intended goals, as the universal scientific theories Europeans drew from the “ideal forest” could not account for nature’s constant change. These statistical understandings of nature were eventually applied to society itself, enforcing quantitative legibility to contexts requiring nuanced qualitative understandings. Scott supports this claim with a variety of case studies, such as compulsory villagization in Tanzania and Soviet collectivization, and outlines the disastrous effects stemming from social planners’ trust in the “hegemonic imperium of scientific knowledge” (1998:323). In each of these cases, Scott argues that had States incorporated local knowledge into the planning and implementation of these projects catastrophe could have been averted.

Furthermore, Scott also argues that the Gezira Irrigation Scheme, a British hydrological reorganization of Sudanese land qualifies under the same model, though he does not explore this example at length. Nevertheless, his mention of the scheme shows the applicability of his theories to instances of hydro-development.

Further, I have also incorporated Thayer Scudder’s four-stage resettlement theory to examine ways in which the disruption caused by development and resettlement can be lessened. As the effects of anticipated agricultural growth in South Sudan will be long lasting, the unique nature of Scudder’s longitudinal studies of dam-induced displacement is crucial to understanding South Sudan’s future. Since the 1960s, Scudder has documented the effects of large dams and resettlement on local populations, most notably through his longitudinal and ethnographic research on the Kariba Dam and its impact on the Gwembe Tonga (1962; 1965;1993; Scudder and Colson 1980). From these studies, Scudder has pieced
together an effective model for successful resettlement processes (2001, 2009) to which I
dedicate several pages in Chapter 5. Central to Scudder’s findings on failed resettlement
initiatives, consistent with the theories of Ferguson and Scott, has been a lack of planner
cooperation with local populations.

In sum, this study applies the frameworks of Ferguson, Scott, and Scudder, to argue
that development must be produced on a state-by-state basis, with the collaboration of local
populations and not just governmental officials. Western “development” discourse has
proven to be ineffectual in addressing poverty, as it is unable to politicize itself, and when it
is politically motivated (as in the case of Scott), it negatively impacts local populations by
reducing them to mathematical equations. In the argument that follows I will show that this
problematic worldview has surfaced in the formative stages of development planning in
South Sudan.

Methodology

Central to this paper is an analysis of past and contemporary “development” discourse
on South Sudan. I have relied on two different sets of primary sources. I pieced together the
Anglo-Egyptian conceptions of South Sudan by examining mid to late 19th and early 20th
century Western travel narratives and New York Times articles. As I was unable to travel to
the University of Durham archives, I relied on the New York Times articles to provide
examples of colonial discourse as uttered by Anglo-Egyptian officials and servicemen. In an
effort to understand contemporary development discourse on South Sudan, I conducted a
qualitative analysis on a sample of twenty-four development reports from various
nongovernmental organizations, intergovernmental organizations and governmental
organizations, such as the United States Agency for International Development (USAID). The documents were selected to provide a holistic view of how aid actors describe South Sudan and envision its future and to examine the contemporary development worldview.

Using these samples of colonial and contemporary discourse on South Sudan, I have conducted the same method of analysis employed by Ferguson (1990). To quote him directly: “instead of ignoring the orderly field of statements produced by the ‘development’ apparatus on the grounds that the statements are ideological, the study below takes this field as its point of departure for an exploration of the way in which ‘development’ initiatives are produced and put into practice” (1990:18). By examining the things colonial administrators and development organizations say about South Sudan I have pieced together the institutional worldviews that have produced development, and its unintended side-effects, in the region.

Prospectus

My second chapter, “Situating South Sudan,” provides a foundational overview of South Sudan’s geography, people and ecology, and its long history of exploitation by foreign powers. As this study examines the aregional, ahistorical and “scientific” worldview that development organizations subscribe to, I use this chapter to describe the inextricable relationship between the region’s agro/pastoralist groups, water, seasons and territory, which has remained neglected by “development” planners over the past century. I then move into a discussion of the political changes in South Sudan over the past two hundred years, focusing on the pre-colonial, colonial and post-colonial periods. I pay specific attention to the inflow and outflow of outsiders in the region and their role in the “underdevelopment” of South Sudan. I conclude with an examination of Sudan’s civil wars, recent peace agreement and
independence.

In Chapter Three, “South Sudan and ‘High Modernist’ Planning During the Anglo-Egyptian Condominium,” I discuss the planning processes of hydrological “development” in Southern Sudan during the colonial era. I use this chapter to establish a historical point of comparison for contemporary development in the region. Using Western travel narratives and *New York Times* articles I show that Southern Sudan’s hydro-geography came to be characterized as “dangerous” and “wasteful.” This construction of an imaginary Southern Sudan gave rise to the Jonglei Canal, a “development” project aimed at “taming” the region’s environment. In the planning process I show that the “development” worldview theorized by Ferguson and Scott contributed to the project’s negative outcome for the South Sudanese people – elaborated on in Chapter 5.

Chapter Four, “History Repeating Itself?: Agricultural ‘Development’ In Sovereign South Sudan,” brings my study to the present and complicates NGO, IGO and the South Sudanese state’s ambitions to transform the country into an “agro-industrial powerhouse” (Kíir 2011). I will show that although nearly two hundred years have passed since the beginnings of Anglo-Egyptian involvement with the region’s hydro-geography, the formative stages of agricultural expansion in South Sudan indicate that contemporary development actors and South Sudanese government officials are approaching the country through the same “technical” and over-simplified lens. As a result, the real environmental and social consequences of agricultural transformation have been overlooked and under discussed.

Chapter 5, “Dams, Canals, and Resettlement: What Can Be Learned From Sudan’s Past?,” examines what South Sudan’s future may hold through an interrogation of past ecologically disruptive projects that serve as comparison cases. I begin with an examination
of what resettlement entails for affected populations and what successful relocation looks like using the work of Thayer Scudder. I then focus on the cases of the Jonglei Canal and Aswan High Dam, to illustrate the implications of poorly planned and executed resettlement and compensation initiatives. Furthermore, I ask what can be learned from these case studies when implementing agricultural projects in South Sudan. Lastly, I summarize the current World Commission on Dams guidelines for future dam construction, which if adhered to may avoid the disruptions associated with the Jonglei Canal and Aswan High Dam and question why, thus far, the recommendations have received little to no attention from the development community.

In Chapter 6, I conclude my study and discuss my study’s contribution to gaps in literature on South Sudan. As shown, the beginnings of agricultural expansion in the country indicate a return to reoccurring themes of flawed development practice as a result of institutional worldviews. Only the coming years will tell what the future holds for the newly independent nation, yet the formative stages of development planning indicate potentially harmful outcomes for the Southern Sudanese.
Chapter 2: Situating South Sudan

If geography is one of the imperishable themes of the past 200 years of Sudanese history, Sudan's differing land mass and rainfall have sheltered an estimated 600 ethnic and linguistic groups, scores of which have consisted of only a few individuals. (Collins 2008:4)

This chapter introduces the country of South Sudan, its people and ecology, and recent history. One cannot understand contemporary events in South Sudan without this foundational understanding of people and place. The chapter is divided into three sections. The first deals with South Sudan’s geography and natural resources. The second focuses on the people of South Sudan and their relationship with the local environment. Lastly, I will examine South Sudan’s recent history, setting the stage for my analysis of contemporary South Sudan. As the nation only became independent in 2011, it is impossible to disentangle its history from that of Sudan. Thus, I will provide a brief history of Sudan, its experiences with colonialism, and its civil wars with an emphasis on the South.

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Locating South Sudan:

South Sudan, located in East-Central Africa, shares borders with Sudan to the north, Ethiopia to the East, Uganda and Kenya to the south, and the Democratic Republic of the Congo and the Central African Republic to the west. Its total land area is 644,329 square kilometers, about the size of France, ranking it the 42nd largest country in the world. South Sudan’s climate differs greatly from the North (largely arid desert, with infrequent rainfall and summer temperatures reaching 120 degrees Fahrenheit), it is tropical with exceptionally fertile land. During the rainy season, between April and October, up to 50 inches of rain may fall, allowing the South Sudanese to practice rain fed agriculture – an impossibility in the North, which relies solely on irrigated agriculture.
At present, South Sudan’s most internationally discussed and desired resource has been oil, found in the Abyei region along the border with Sudan. As South Sudan has no infrastructure to move and refine its oil, Khartoum – which has been unwilling to relinquish the South’s oil wealth – has forced the South to pay the North for oil transportation to the outside world; this has led to political disagreements between the two governments, which have yet to reach a durable agreement. Nevertheless, as I argue in this paper, South Sudan’s water, rather than oil, and its contribution to agricultural growth will play a more significant role in South Sudan’s future.

While the country is land locked, water is one of its most plentiful natural resources. The Nile, which travels through the center of South Sudan, provides fertile agricultural land to the South Sudanese and has informed South Sudan’s experiences with outside powers, who first encountered the region as a result of Nile exploration (see Chapter 3). Furthermore, vast swamps, the Sudd, created by the Nile River, extend for 1000,000 square kilometers, amounting to 15% of South Sudan’s land area. Most importantly, the river and the environmental conditions it creates have played a formative role in the livelihoods of local populations.

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*The People of South Sudan:*

Home to over 200 ethnic groups, South Sudan boasts a very diverse demography. According to a recent study South Sudan’s ethnic distribution is as such: Dinkas 35.8%; Nuers 15.6%; Shiluks, Anuaks, Lovas et al 8.9%; Azandes 8.4%; Baris 8.3%; Lotukos 4.8%; Arabs 3.1%; Others 15.1% (Izady 2011). When considering the blurred lines boundaries of ethnicity in the south, the nation’s demography becomes even more complex. The Dinka, the
country’s largest ethnic group, began to migrate to the region in the thirteenth century, to escape slave raids and drought. Initially the Dinka established themselves as a predominant ethnic group through violence with the majority of southern groups such as the Funj, Shilluk, and Murle. This cycle of violence continued until the 17th century and is still remembered in Sudanese oral traditions (Beswick 2004:42). However, the territory acquired by the Dinka in these military campaigns has not remained permanent. For example, in the early 19th century Nuer subgroups began to migrate from their traditionally inhabited territory into Dinka and Anuak lands, effectively tripling their land base and increasing their numbers by “assimilating tens of thousands of Dinka residents, captives and immigrants in their wake. As one contemporary Nuer man laughingly summed up the results of the longstanding assimilation trend: “There are no [real] Nuer. We are all Dinka” (Hutchinson 2000:8-9).

These comments point towards another characteristic of ethnicity in South Sudan, its fluidity. Sudanese concepts of ethnicity are constantly evolving depending on economic stresses, environmental conditions and politics. Recently violence between Nuer and Dinka groups has strengthened people’s ties to their own ethnic group (Hutchinson 2000), and changed what constitutes a Nuer or Dinka person. Amongst the Dinka, ethnicity has come to privilege “human blood lines” in deciding whether or not someone is “Dinka.” The Nuer on the other hand have come to view their ethnicity as an “honorific title” dependent on social approval – anyone can become a Nuer and at the same time people can be stripped of their “Nuerness” (Hutchinson 2000:9). This fluidity of ethnicity is not only characteristic of the south, but of Sudan at large. For example, in the western region of Darfur during times of economic stress many Fur agriculturalists “became” Baggara by transitioning to a nomadic lifestyle (Haaland 1969). This complex relationship between what constitutes Fur and
Baggara signals another important determinant of culture and ethnicity: the environment.

Central to this thesis is agricultural development in South Sudan and the possible construction of new dams and irrigation projects to facilitate large scale farming. Thus, it is imperative to have an understanding of how South Sudan’s environment has impacted the lives of local populations. I will illustrate the relationship between the South Sudanese and the environment through Evans-Pritchard’s study of the Nuer (1940). This particular attention to the transhumant livelihoods of the Nuer is intentional. While certain ethnic groups like the Azande people, located in southwestern South Sudan, have practiced sedentary rain fed agriculture for centuries, the Nuer and other groups with similar livelihoods such as the Dinka, Shilluk and Murle who inhabit some of the country’s richest agricultural regions have not. For these transhumant groups agricultural development will bring the most radical change – elaborated upon in Chapter 4 – requiring environmental and cultural reorganization as well as the possibility of resettlement.

In *The Nuer*, Evans-Pritchard highlights the importance of South Sudan’s environment in forming the livelihoods of the Nuer. He describes the region’s climate and geography in these terms:

> The main characteristics of Nuerland are: (1) It is dead flat. (2) It has clay soils. (3) It is very thinly and sporadically wooded. (4) It is covered with high grasses in the rains. (5) It is subject to heavy rainfall. (6) It is traversed by large rivers which flood annually. (7) When the rains cease and the rivers fall it is subject to severe drought” (Evans-Pritchard 1940:55).

In his fieldwork Evans-Pritchard found that these environmental conditions had played a significant influence on the lives of the Nuer and their social structure. Given that South Sudan experiences climactic extremes – during the rainy season an excess of water and during the dry season a propensity for drought – which render purely horticultural livelihoods
impractical and risky, the Nuer have relied, in large part, on cattle husbandry for their food security; however, small scale farming and fishing still play an important role in Nuer livelihoods. As Evans-Pritchard observed, “The necessity of a mixed economy follows from the ecological equilibrium. Rinderpest prevents complete dependence upon milk foods; climate prevents complete dependence on grain; and hydrological variations prevent complete dependence on fish. These three elements together enable Nuer to live, and their seasonal distribution determines Nuer modes of life at different periods of the year” (Evans-Pritchard 1940:92). Thus, as one can imagine, Nuer communities are not sedentary. In fact, “villages” can be as long as 30 kilometers (De Mabior 1981:71), as cattle must be fed, grains must be grown, and fish must be caught all in different locales – a mode of subsistence called transhumance.

While political instability, the introduction of a cash economy and land ownership have changed the lives of the Nuer as documented by Hutchinson (1996). Her research suggests that they have continued to practice transhumance and that cattle continue to hold an important place in society. As developed in Chapter 5, the Jonglei Canal has disrupted the environmental conditions of the Sudd and in turn local livelihoods. As a result of the canal, Nuer, Dinka, and Shilluk migrations have been drastically altered, and they have been forced to adopt new ways of reaching grazing areas; however, the transhumant nature of local populations remains largely the same, tied to the seasonal flooding of the Nile River. As the international community and South Sudanese State continue with development, it is essential that these long held practices do not go unnoticed as a result of the “high modernist” and “scientific” worldview of social planners.
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_Sudan's Modern History: Colonialism, Wars, and the Birth of Two Countries:_

Until the early 19th century, southern Sudan remained largely untouched by foreign, northern powers; however, beginning in the 19th century this long held isolation from invasions ended. While southern populations had been exploited for slaves by the Sennar and Darfur sultanates during the 16th and 17th centuries, the extent of the slave raids was not far reaching and was largely limited to the western Bahr al-Ghazal region, the Nuba mountains and the White Nile plains. By the eighteenth century northern slave raids met resistance from the southern Shilluk kingdom and Dinka populations, halting slave raids; however, this balance of power soon tipped with the arrival of Egyptian forces in the 19th century (Johnson 2003:2-4).

In 1820, the Turco-Egyptian ruler Mohamed Ali launched an invasion of Sudan in search of slaves and gold. While Egypt’s superior firepower allowed Mohamed Ali to press further into southern Sudan than was previously possible, the southern swamps limited Mohamed Ali’s ability to impose any form of centralized control over the local populations (Collins 1964). Nevertheless, the heavy taxes for slaves imposed on the North by Mohamed Ali’s regime led to a revival of slave raids in the South. Slave raids became so widespread that by 1860 between 12,000 and 15,000 southerners were sent north annually to serve as slaves (Collins 2008:20). Three years later Isma'il Pasha, the Egyptian Viceroy, issued a decree to end the slave trade and enlisted the help of “incorruptible Europeans morally committed to end the slave trade...” Samuel Baker and Colonel Charles Gordon, both British nationals, became influential administrators in Sudan and brought with them an increased

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6 The legacy of slavery is still felt today as the Northern word for Southerner is _abd_, slave.
Mohamed Ali’s dynasty was toppled by the Mahdist revolution in 1885 and placed Muhammad Ahmad in power. While southern geography contributed to the success of the Mahdist revolution, as the Sudd strained communication between Turco-Egyptian forces (Collins 1962:132), it remained out of the Mahdiyya’s control. The Madhist government was short lived as by the 1890s Anglo-Egyptian forces began to reconquer what Egypt lost during the Mahdist revolution. Following the Battle of Omdurman in 1898 Sudan found itself under Anglo-Egyptian condominium rule which would last until 1947, the British would remain in power until 1955.

When the British assumed control of Sudan they were faced with administering two vastly different regions, the North and South. Accordingly, London pursued distinct policies of “Indirect Rule” for the “two Sudans.” In the North, the Anglo-Egyptian government “secured itself from any threat of resurgent Mahdism... by reinstating tribal leaders where they had been replaced... by supporting orthodoxy against ‘fanaticism…’ and by subsidizing the Mahdiyya's religious rivals...” Furthermore, the British were able to bring the North under centralized control relatively easily by establishing a police force and dispatching civilian British officials in Northern provinces (Johnson 2003:9). Eventually, the British also reduced their presence in Sudan, opting to rule through the local elite, the effendia (Collins 2008:38). The South, however, was more elusive to centralized control, and required a different form of rule.

The British, like their Turco-Egyptian and Mahdist predecessors, were challenged by Southern geography and found themselves unable to effectively rule over the South. Overtime, a distinct “Southern Policy” took form, in response to British difficulties in the
South and fears of Egyptian and Islamic influence in the region, following Egypt’s independence in 1919. Britain’s new policy for southern Sudan was one of underdevelopment enforced by “devolution” of power to “tribal leaders,” as well as opposition to southern urbanization (Tvedt 2004:225). Furthermore, the British believed that by encouraging religious diversity in Southern Sudan (Christianity and local religions) they could also avoid Northern (Islamic) influence (Johnson 2003). As one might expect, this policy of “Native Administration” served to deepen the divide between the North and South by establishing clear educational, infrastructural and economic gaps – a key factor in the buildup to Sudan’s Civil Wars.

*Independence, Violence, Independence:*

In a classic case of European decolonization, the British, bound by their appreciation of neatly drawn borders, decided that the Northern and Southern Sudan, despite their differences, would be granted independence as one nation. Though discussions were underway between Northern and Southern politicians to create a federal government, which would allow the South to maintain some autonomy, as independence drew nearer it became clear that such a state would not exist. This period also witnessed attacks on the North from Southern “mutineers,” who were dissatisfied with an increasing presence of Northerners in the South as civil servants, signaling the beginning of the First Sudanese Civil War. Nevertheless, on January 1st 1956, Sudan became a sovereign country with two very distinct regions, which shared little geographic or cultural unity. Both had very different experiences with their Anglo-Egyptian colonial administrators in terms of governance and infrastructural development, and both had varying levels of religious diversity and education. The
government in Khartoum was expected to administer the South, while Southerners were expected to adhere to Northern rule. From this point forward the inequalities between the North and South became even clearer and eventually gave way to violence.

Soon after independence the government of Sudan began a campaign of “Arabization and Islamization in the South,” by instituting Arabic as the lingua franca – during the colonial era Southerners were taught English – and even shutting down Christian missionary schools (Johnson 2003:30-31). In response to attacks of Southern “mutineers” on the North, Khartoum increased military efforts against the South hoping to weed out rebels. This violence continued to escalate, eventually turning into an all-out civil war between the North and South, which would last until 1972, leaving roughly half a million people dead.

Though the 1972 Addis Ababa Agreement ended the civil war between the Sudanese Military and Southern Sudan Liberation Movement, establishing a cease fire between the North and South and giving Southern Sudan a greater degree of autonomy, it merely served as a temporary fix to the inequalities which started the civil war in the first place. Thus, in 1983, just over a decade after the 1972 agreement, the Second Sudanese Civil War began. To discuss all the reasons that led to a return to violence would be tedious. As Douglas Johnson argues, “religion, local perceptions of race and social status, economic exploitation, and colonial and post-colonial interventions are all elements in the Sudan’s civil war, but none, by itself, fully explains it.” For the purposes of this paper it is sufficient to know that a war did occur and left a trail of destruction in its path.

Led by John Garang De Mabior, the South Sudanese once again took up arms against the government in Khartoum, under the banner of the Sudan’s People Liberation Movement (SPLM) and Sudan’s People Liberation Army (SPLA). The war, which lasted until 2005, left
between one to two million dead, the majority of whom were civilians. The Comprehensive Peace Agreement (CPA), brokered by the international community and leaders from both Khartoum and the South officially brought the fighting to a halt in 2005 and made provisions for the South to hold a referendum in January 2011 to vote on secession from Sudan. The stability of the peace agreement was called into question several times, most notably following the death of John Garang, whose helicopter crashed following a visit to Uganda shortly after the signing of the CPA. Despite spurts of violence between the North and South during the interim period, the referendum went ahead as scheduled in January 2011 when the South Sudanese voted overwhelmingly for secession from Sudan.

On July 9, 2011 South Sudan celebrated its independence with President Salva Kiir, also a Dinka and successor of John Garang, at its helm. In the years preceding the referendum the international community had become increasingly involved in Sudanese politics – due to the promise of oil and its geostrategic location – offering developmental assistance and peacekeeping assistance to the South as well as the region conflict ridden region of Darfur; however, since Southern independence these efforts have intensified. Unprecedented amounts of international aid have flooded into South Sudan, as have the development community, who plan to pull the nation out of decades of violence by building a strong economy, central government and community organizations, to name but a few endeavors – it is here, into the breach of emerging practices, where this paper picks up.
Chapter 3: South Sudan and “High Modernist” Planning

During the Anglo Egyptian Condominium

‘We came,’ they said, ‘to a remote region, to immense marches, the outlet from which neither the natives knew, not could anyone hope to attain to it, so mingled were the grasses with the water, and the water impassable to men traveling either on foot or with a boat, seeing that a small kind, holding on person only, was as much as the muddy and tangled marsh could sustain. – Seneca, A.D. 55 (Webb 1899:36)

Since the beginning of the Current Era, foreign powers have been fascinated by Southern Sudan’s swamps, as illustrated by Roman advances in the region. In the absence of modern tools and technology, the Romans turned around and for centuries few foreigners attempted to traverse the swamps until the arrival of Western travelers in the 1820s. Beginning in the 19th century Egyptian officials, British administrators and Western travelers, tied to the industrial revolutions’ ideas of modernist “progress,” formed a discourse about southern Sudan that characterized the region’s hydro-geography as “dangerous” and “harmful” to outsiders and viewed its water wealth, which could benefit Egypt and northern Sudan, as “wasted” on the local populations. The Sudd, swampland in southern Sudan, came to be understood as a “scientific problem” by Anglo-Egyptian and (northern) Sudanese officials, and soon enough technical solutions were proposed to harness the water “lost” in the wetlands. After much trial and error, northern governments, engineers, and scientists agreed upon building a canal through South Sudan’s swamps – the Jonglei Canal. In the process of drawing up project schematics Southern livelihoods received little attention as a result of the “high modernist” worldview of the Anglo-Egyptians and colonial and Northern Sudanese attitudes towards the Southern people– the results, discussed in Chapter 5, were disastrous. Prior to examining the construction of an imaginary South Sudan and the formulation of the Jonglei Canal, it is imperative to understand the hydro-geography of the
region that foreign entities interacted with.

*The Nile River*

Egypt, a largely arid landscape save the fertile narrow strip on the Nile River’s banks, has been commonly known as “the Gift of the Nile.” For thousands of years the river has created habitable areas and provided Egypt’s food security. This is well reflected in traditional representations of the Nile. Egyptocentric is the best way to describe the majority of Nile scholarship, which tends to focus on the positive effects the river brings to its northernmost beneficiary; however, prior to its arrival in Egypt the Nile passes through nine other countries. These riparian nations are often mentioned in passing, mostly to chronicle the Nile’s teleological journey to Egypt’s fertile soil. Thus, in an effort to move beyond the limitations of current Nile scholarship, I will describe the river through the lens of South Sudan, its geographical features and how it contributes to local livelihoods. Although Egypt will not be absent from this discussion, it will not take precedence over South Sudan. I will conclude this section with a brief discussion of the past century of Egyptian dominance over the Nile River and show how South Sudan’s recent independence points towards imminent change in water rights in the Nile Basin.

The Nile, the longest river in the world, travels more than 4230 miles from its headwaters in Burundi and Ethiopia before joining the Mediterranean Sea. Consisting of various rivers, the Nile itself isn’t necessarily one unified body of water. While the Nile River has two main tributaries, the White and Blue Niles, only the White Nile passes through South Sudan.
Before arriving in South Sudan the White Nile passes through Burundi, Rwanda, Kenya, Tanzania, Uganda and the Democratic Republic of the Congo. Many sources of the White Nile exist, but its southernmost point is located in Burundi. Once the Nile enters South Sudan it meets the Bahr al-Ghazal and Bahr al-Jabel tributaries and flows into the Sudd, one of the world’s largest wetlands, which plays a significant role in the lives of the southern Sudanese, as detailed in Chapter 2. Yet traditional descriptions of the Nile have often ignored these realities. Robert Collins, a renowned historian of Northern and Southern Sudan, who is intimately acquainted with the ecology of the South, describes the Sudd as:

One of the most formidable natural obstacles in the world, the Sudd is a labyrinth of 11,700 square miles of lakes, lagoons, and meandering channels. The lagoons and lakes rise and fall according to the amount of water from the equatorial lakes and seasonal rainfall to disgorge floating islands of aquatic plants, *sudd*, which coalesce into dams of aquatic vegetation that force the river to rise and cut a new channel around the obstruction, by which the process is repeated, forming new barriers in a never-ending cycle. Trapped in this vast expanse of swamp and lagoons enormous quantities of water are lost to evaporation and transpiration, so that whatever the volume flowing down from the great equatorial lakes or by rainfall the quantity of water that emerges from the Sudd remains approximately the same from one year to the next and is lost to both Sudan and Egypt. (Collins 2008:2)

Only several pages later does Collins acknowledge the importance of the Sudd in the livelihoods of the South Sudanese, a testament to the widespread Egyptocentric discourse on the Nile.

Moving north, the White Nile leaves the borders of South Sudan and joins the Blue Nile at the outskirts of Khartoum. The Blue Nile originates in the highlands of Ethiopia and thunders down the mountainside to the plains of Sudan. On its 600 mile journey through Ethiopia, the river collects decomposed basalt and rich alluvial soil and silts, turning the deserts of Sudan and Egypt into rich agricultural areas (Kendie 1999)\(^7\). It is this

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\(^7\) Since the construction of the Aswan High Dam, these essential salts have been blocked behind the dam's
transformative nature of the Nile River that has dictated Egyptian foreign policy for centuries. Egypt has relied on the river as its sole guarantor of its food security and potable water reserves for thousands of years.

Historically, upstream conflicts and political instability have allowed Egypt to maintain what it deems to be an ‘equitable’ share of Nile water. In instances when riparian nations have been stable enough to pursue construction along the Nile, Egypt has resorted to aggressive political maneuvers to hinder or abolish upstream development. Egypt draws legitimacy for its claim over the Nile from the 1929 and 1959 Nile Waters Agreements, which, in their broadest terms, grant Egypt the power to veto any construction that would inhibit the Nile’s flow. However, Egypt has been unable to maintain its Nile supremacy on its own, as the 1959 Agreement extended Nile privileges to neighboring Sudan, following its independence in 1956. Although recent years have strained the political alliance between Khartoum and Cairo, they have maintained a united front against upstream development. This Northern dominance of a shared resource, however, is becoming increasingly unsustainable.

Population booms throughout the region have required riparian nations to produce more food, for more people, at an alarming rate (Swain 2002). Upstream nations will soon be required to tap into the Nile reserves to meet this agricultural demand. Great potential exists for hydroelectric and irrigation projects upstream (Hassan and Al Rasheedy 2007; Stroh 2004); however, as a result of Egypt’s political and military power, further development has yet to be implemented. Nevertheless, the recent political developments in Egypt and the creation of an independent South Sudan point towards imminent change in the power
structures of the Nile Basin (Boueri 2011).

Egypt has recognized the significant changes to the hydropolitical landscape of the Nile Basin ushered in by an independent South Sudan. Diplomatic cables released by Wikileaks earlier this year state that while “Egyptian officials have emphasized the importance of preserving Sudan’s unity...they have carefully hedged their bets by maintaining close ties to the South” (Wikileaks 2009). This translated into political action in the months leading up to January’s referendum, when Cairo allocated $300 million to water and electricity projects in South Sudan in July, 2010. Now that the referendum has passed, Egyptian efforts to foster a sense of good will between the two nations have intensified.

In his first trip since taking office, Egypt’s Prime Minister, Essam Sharaf, along with seven other ministers, traveled to Khartoum and Juba to meet with northern and southern Sudanese leaders. During meetings in Khartoum, Egypt’s foreign minister emphasized his country’s commitment to South Sudan, stating, “Sudan intends to be the first to recognize Juba and Egypt intends to be the second to recognize the south” (Al Jazeeera 2011). The meetings in Juba further cemented Egypt’s commitment to South Sudan, where leaders discussed reviving the long stalled Jonglei Canal project. Given the canal’s troubled history, it is unlikely that the Government of South Sudan will ever agree to complete the project. However, the fact that Egypt is still pursuing a long dead canal is telling and shows the ongoing effects of Anglo-Egyptian discourse on Southern Sudan and the persistence of “high modernist” worldviews in contemporary Egyptian imaginations of South Sudan. I describe these worldviews in the pages that follow.
Throughout the 19th century, German, Austrian, English, and even American travelers explored the Nile River to locate its southernmost source, which for centuries remained unknown. These explorers were motivated by what Frederick Bradnum describes as “the spirit of restlessness which set British gentlemen... walking around the world as if they owned it,” and by the mystery of the Nile’s source. In fact, “By the middle of the nineteenth century... [discovering the source of the Nile] had become... the greatest geographical secret after the discovery of America...” (Warburg 2007). The potential findings of these expeditions were of great value to Egypt, as its water security remained unclear. Egyptians believed that by pinpointing the source of the Nile some of their hydro-security questions such as, would the Nile eventually run out of water and how far South would Egypt have to extend its political influence could be answered. While it took decades to locate an agreed upon southernmost source of the Nile, explorers soon encountered the Sudd which quickly became a bewildering and frustrating terrain for 19th and 20th century Westerners and Egyptians alike. Through a close reading of travel narratives and newspaper articles of the late 19th and early 20th century we can examine extra-Sudanese discourse regarding the Sudd that led to the rise of “scientific” hydrological “development” projects in southern Sudan.

In my analysis of Anglo-Egyptian discourse on South Sudan I’ve examined mid to
late 19th and early 20th century Western travel narratives and *New York Times* articles. Through a textual analysis of these primary sources, I show that European and American explorers created an imaginary southern Sudan, characterized by its “dangerous” and “wasteful” swamps – a process which rendered the region’s ecology invisible. Explorers described the vast swamps as impediments to the Nile’s flow and governed by 19th century modernist ideologies regarding nature, these travelers argued that the swamps needed to be modified and rearranged, to accommodate extra-Sudanese travel up and down the river. In the eyes of British and Egyptian officials, reorganizing the swamps held economic promise. With an increased water supply, crops such as cotton could flourish in the barren Egyptian deserts and soon enough canal plans were drawn up to “save” water from the Sudd.

*Southern Sudan as “dangerous”*

In 1836, Muhammad Ali, ruler of Egypt and Sudan, consulted European geographers regarding the source of the White Nile, believing that its discovery held the promise of gold. Three years later, two Frenchmen, Joseph-Pons d’Arnaud and Georges Thibaut, accompanied an Egyptian expedition – dispatched by Muhammad Ali – whose mission was to pinpoint the source of the White Nile. These travelers, however, “surrendered to the implacable Sudd near the modern town of Bor on 26 January 1840” (Collins 2008:13). Upon hearing the news, an outraged Muhammad Ali commanded Salim Kaptan, the commander of the previous expedition to return to the White Nile the following November. This time, accompanied by two Frenchmen and a German, Captain Salim was able to cut through the Sudd revealing “flourishing cultivations, and an infinite number of elephants with precious ivory...” (Collins 2008:13-14). In 1848, Ferdinand Werne, the German explorer who joined Salim’s expedition,
published his experiences along the White Nile and the vast riches, in the form of ivory, that existed beyond the Sudd (Collins 2008:14). The swamps, however, were not so easily malleable, as the vegetation began to reform and expand shortly after Salim’s initial “victory.”

Viewing the Sudd as a “danger” to Egyptian interests Ismai’il Pasha, Muhammad Ali’s grandson and ruler of Egypt and Sudan, sent a massive force of fifteen hundred soldiers, commanded by the British explorer Samuel Baker, to permanently eradicate the vegetation that so “hinders” the Nile’s flow. Baker’s expedition failed; however, the mission itself and the imprint it left on Baker (and subsequent Western explorers) is worth investigating.

Muhammad Ali’s decision to send 1,500 soldiers was a Northern declaration of war against southern Sudanese land, and this is reflected in most subsequent accounts of northern encounters with the swamps. Florence Baker, Samuel’s wife, who accompanied the expedition recounts their experiences in the Sudd as a struggle against a powerful force of nature in a letter to her daughter: “It would be quite impossible by any description to give you an idea of the obstacles to navigation through which we have toiled with the fleet, but you can imagine the trouble when you hear that we were thirty two days with 1,500 men in accomplishing a distance of only 2½ miles” (Baker et al. 1970:80). In the same letter Mrs. Baker describes the morale of the “troops:” “We were broken-hearted on arrival at the shallows and the men made up their minds that we must turn back. The river was falling rapidly, thus it was a race against time as it might be perfectly dry by the time we should have overcome a present obstruction. It appeared that the expedition must be utterly ruined” (85). This war was not without casualties, as Florence Baker mentions the sinking of ships and soldiers perishing from heatstroke – the Sudd had now become “dangerous” to the very
lives and boats of the explorers. The journals of Florence and Samuel Baker, however, describe their efforts as triumphant over the Sudd – the troops are eventually able to clear a way through the swamps and continue on with their southward journey.

The Sudd had proven to be a strong adversary to northern expansion, yet European explorers continued their assault on the southern swamps. Baker and Muhammad Ali’s efforts to eradicate the vegetable barrier, however, failed; two decades later, Colonel Charles Gordon reported: “I have made inquiries, and find that Baker cut through some 80 miles of the ‘Sudd’ or vegetable barrier; the other day my steamer found this quite closed up.” The rhetoric of war with nature continued, with Colonel Gordon referring to the thick clumps of vegetation as a “fleet” – characterizing the plants as military ships – and furthering conceptions of the Sudd as inherently “dangerous.” To quote Col. Gordon’s account of his encounter with the Sudd, entitled “Cutting Through the Nile:”

Last year the Governor went up, and with three companies and two steamers he cut large blocks of the vegetation away. At last, one night the water burst the remaining part and swept down on the vessels, dragged the steamers down some four miles, and cleared the passage. The Governor says the scene was terrible. The hippopotami were carried down, screaming and snorting; crocodiles were whirled round and round, and the river was covered with dead and dying hippopotami, crocodiles, and fish who had been crushed by the mass (New York Times 1881:4, emphasis added).

This depiction of the Sudd as not only a danger to explorers, but also to the environment and animals inhabiting the region, became ingrained in northern imaginations of southern swamps. Following the failings of Baker’s initially “successful” passage through the swamps, and Col. Gordon’s account of his travels on the White Nile, the Sudd came to be

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9 As an interesting aside, another description of the same event is catalogued in Alvan S. Southworth's *Four thousand miles of African travel: a personal record of a journey up the Nile and through the Soudan to the confines of Central Africa, embracing a discussion on the sources of the Nile, and an examination of the slave trade*. 1875. New York: Baker, Pratt & Co. Ismail Bey, the son of Mohamed Ali, claims that the dead hippopotami served as a wonderful meal, which his crewmembers relished. From here we can deduce that the rhetoric of the Sudd being a dangerous place was chiefly a European creation.
viewed as a “scientific” problem, as brute force had proven ineffective against the vegetation.

Nevertheless, Baker’s methods continued to be used long after he “conquered” the Sudd. Fighting the Nile Sudd, an article from Pearson’s Magazine republished by the *New York Times* on July 28, 1901, details the early methods the British Royal Navy used to strip the Sudd of its “obstructive” vegetation. Their violent techniques of “garden keeping” relied on brute strength, as well as a labor force of “750 Soudanese prisoners under the direct order of two young officers of the British Royal Navy. Excerpts from one of these officers’ journals go as follows:

> On arriving at a block [of vegetation] we tie up the steamer and set everything on fire... Next we put pieces of wood around our section (cut up telegraph poles,) fix a wire hawser round the section [of Sudd]... the force jerk which the steamer brings on the wire severs the roots of the section underneath from the others – or at least sometimes does: that’s the idea.

Of note is the use of the Royal Navy role in the Sudd, continuing with the theme of northerners being at war with the swamps. Furthermore, their actions of setting vegetation on fire and the “force jerk” of the steamer “severing” the roots illustrates the inexact nature of their methods - “science” was needed to “tame” the Sudd.

The effect of Anglo-Egyptian discourse on Northern and Western perceptions of the Sudd was profound and long lasting, best captured in a 1930 *New York Times* article, titled “British Heir Reaches Khartoum By Airplane”: “The Prince of Wales, looking bronzed and fit, stepped from an aircraft here today after a six-hour flight from Malakal across the dangerous swamps of Southern Sudan.” As demonstrated by the article, decades after Baker’s expedition and the Royal Navy’s efforts to contain the Sudd the “dangerous” nature of the swamps and southern Sudan remained ingrained in the Anglo-Egyptian imagination. While early confrontations with the swamps were driven by the “danger” of the swamps – to
Egyptian ivory prospects, exploration and the explorers themselves – it eventually took a reduced role in persuading Egyptian action against the swamps, as Anglo-Egyptians began to assign economic value to the water “trapped” in the Sudd.

Southern Sudan as “wasteful”

The early iterations of “scientific” data collection and plans to cure southern Sudan of its “dangerous” affliction gave rise to a new discourse on the swamps – one of “waste.” A first attempt at “scientifically” solving the Sudd problem was proposed by Sir William Willcocks, who suggested planting willows and poplars to reclaim swamp land – a strategy which had worked on the Mississippi – on a scale as large as money would permit. He argued that if these changes were to be made, the willows would purify the Sudd waters and greatly increase Egypt’s water supply (The Geographical Journal 1900:237-238). Willcocks’ “scientific” plan failed (no mentions of its success can be found in later discussions of the Sudd) surely due to its misunderstandings of local Sudanese geography – willows were not native to southern Sudan for a reason, and their introduction could have both negative environmental impacts, or fail entirely. Most importantly Willcocks’ plan indicated the “enormous” increase in the Nile’s flow in the event of successful swamp reclamation. As noted in chapter 2, regardless of the water “lost” in the Sudd, the White Nile accounts for significantly less water output than the Blue Nile, and would not amount to the “enormous” increase Willcocks suggested.

Nevertheless, the potential to save an “enormous” volume of water became an integral part of Sudd discourse. These estimates of the volume of water saved soon took on a life of their own, and began to shape a dire (though false) need for Egyptian access to the
“trapped” waters in the Sudd. In 1900, a year before Willcocks introduced his willow plan, a New York Times article entitled “Egypt’s Cotton Prospects,” reported that “The prospects of the cotton crop have been improved owing to the progress made in cutting the Sudd, thus enabling a greater flow of water” (April 3rd, 1900). So entrenched were conceptions of the magnitude of water trapped in the Sudd, that people began attributing natural fluctuations in agricultural product to swamp clearance. This discourse remained in effect 11 years later, when Sir William Willcocks claimed that if the Sudd was successfully “removed,” the White Nile’s discharge would be more than doubled and Egypt’s habitable area be significantly increased (New York Times 1911:C3). The idea that precious water was “wasted” in the Sudd and by extension “wasted” on the people of southern Sudan, gave rise to a large scale canal project, the Jonglei Canal (elaborated upon in chapter 4).

The image of the Sudd as a highly absorbent sponge inhibiting Egypt’s agricultural and “habitable area” carried on throughout the 20th century, became popular in Sudanese government circles, who believed that water could be put to better use in northern Sudan. The effect of Nile discourse on government officials in Khartoum was a significant contributor to the “success” of the Jonglei Canal scheme. In 1975, three years before digging in Jonglei began, Yahya Abdel Mageed, Sudan’s Minister of Irrigation and Electric Power was quoted in the New York Times as saying: “the amount of water lost in the Sudd is staggering... The object of the Jonglei scheme is to squeeze the water that it is holding into the Nile, at the same time providing more cultivable land by draining the swamp.” The same articles goes on to say that when confronted by environmentalist critics, Mageed responded: “why preserve land that is bad? Why don’t the conservationists ever mention the fact that we will be destroying an environment which breeds mosquitoes and makes local people prey to malaria”
(1975). Had Mageed done his homework on the spread of malaria and hydro-development, he would have probably reconsidered his claim. In Rule of Experts: Egypt, Techno-Politics, Modernity, Timothy Mitchell (2002) discusses the shocking spread of malaria following the construction of the Aswan Low Dam in 1902, showing that the environmental impacts of damming the Nile allowed mosquitoes to move up the Nile faster than ever before, and into areas that were previously inaccessible to them. Critiques aside, Mageed’s comments highlight the persistence of Anglo-Egyptian discourse on the Sudd – he directly mentions the “danger” and “waste” of the swamps – and the role that foreign views of Southern hydro-geography played in building the Jonglei Canal.

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As discussed in Chapter 2 the Sudd is neither “dangerous” nor “wasteful” to the southern Sudanese, and, in fact, has played a formative role in their livelihoods. With this in mind two questions arise: how and why were their livelihoods overlooked? An obvious answer to both questions would be colonial and Northern Sudanese attitudes towards the southern Sudanese people – the benefits of an increased water supply in the North outweighed the human costs in southern Sudan. However, by using the theories outlined by James Scott in Seeing Like a State we can add another dimension to Anglo-Egyptian neglect of southern Sudanese livelihoods.

The shift from clearing the Sudd through brute force to clearing it through scientific means required legibility; the land needed to be reduced to statistics and maps so that engineers, who would probably never set foot in the Jonglei region, could draw up project plans. And thus, from the end of World War I until 1948, the Egyptian Irrigation Service compiled statistics and data for drawing up plans for the eventual Jonglei Canal. From a
Scottian (1998) view, this process served to mask local livelihoods, as qualitative data had no place in the over simplified, “scientific” endeavors of Egyptian scientists.

Egypt went to great lengths to gather information on the Sudd. “Two Planes Will Survey 20,000 Miles in Sudan” reads the headline of a 1930 *New York Times* piece. The article explains that the Irrigation Department of the Egyptian Government commissioned two British planes to map the Sudd region (as well as parts of Uganda and Congo). The survey was intended as “a step toward a canalization scheme for the Sudd region... [With] the whole area to be mapped on a scale of 1-50,000 and photographic plans...[to be made] on the scale of 1-20,000”10. This bird’s eye view was characteristic of Anglo-Egyptian understandings of southern Sudan. To these extra-Sudanese actors the data collected fully supported the construction of the canal. Water would be saved, Egypt would increase its agricultural output and the world would finally be rid of the “dangerous” Sudd. At the same time, this “view from above” effectively diminished the contributions of the Sudd’s water to local livelihoods. Though decades have passed since colonial era planning, I will show in Chapter 4 that the “high modernist” and “techno-scientific” worldview problematized by Ferguson and Scott, and held by Anglo-Egyptian officials, has re-surfaced in the formative stages of development in South Sudan

10 Interestingly, at around the same time, Egypt was undergoing an intensive mapping project. Cartography became such a preoccupation of officials at the time that surveyors produced twenty thousand maps of Egypt, done on a scale of 1:2,500 (twenty-five inches per mile). Through this process, Egypt became one of the “...most closely mapped terrains in the world” (Mitchell 2002:86).
Chapter 4: “History Repeating Itself?:

Water and “Development” in Sovereign South Sudan

The Southern half of the Sudan is potentially one of the richest farming regions in the world, with the soil, sunlight and water resources to produce enormous quantities of food - as much perhaps, as the entire world now produces.' The water is useless today; the headwaters of the White Nile, blocked in their northward flow... spill out over the land to form great swamps. To unlock the promise of the Southern Sudan those swamps would have to be drained, a rural infrastructure put in place, and the nomadic cattle raisers of the region somehow turned into sedentary farmers. The Capital costs of such an undertaking would be as large as the promise... yet the potential is real and untapped, and as world food shortages persist such a reserve can no longer be neglected. (Hopper 1976 as cited in De Mabior 1981:113-114).

Agricultural reform has become a buzzword amongst the GoSS and development community in recent years. Recognizing South Sudan’s finite oil reserves and embracing its agro-friendly geography, President Salva Kiir stated at the 2011 UN General Assembly that, “The ambition of the people of South Sudan is to be able to transform their country into a regional agro-industrial powerhouse.” While some projects are underway it is unlikely that large scale agricultural reform will occur in the near future – the international community are currently more preoccupied with providing humanitarian assistance such as security and shelter for the displaced victims of ongoing violence in South Sudan. Nevertheless, the funds are ready and the aspirations strong for transforming the country into an “agro-industrial powerhouse.” The positive aspects of agricultural reform are clear – many believe that South Sudan’s issues with shaky food security, low national GDP and quality of life can be solved by improving current crop outputs and expanding the practice of agriculture to South Sudan’s uncultivated arable land. With an increase in food production, the nation could also benefit the food insecure Horn of Africa. Furthermore, the construction of roads and an infrastructure to support large-scale agriculture would create thousands of jobs. In the eyes of developers,
agricultural development is holistic development extending beyond the farm and into all corners of South Sudanese society.

This chapter picks up on this thread of agricultural expansion and examines the lack of development actor and GoSS consideration of South Sudan’s water and people and the complexities of implementing large scale agriculture in the formative stages of development practice. I argue this is a result of the “development” worldview. I begin by introducing two powerful actors publicly supporting and funding agricultural projects in South Sudan: the development community and private companies. Next, I move to an analysis of twenty-four documents, reports and news articles from aid actors involved in South Sudan. Although I have chosen to focus on the development community as they have drawn international attention to South Sudan and its agricultural potential, interspersed throughout this chapter will be some of the views espoused by private investors.

In the pages that follow, I will show that international actors have approached South Sudan from a top-down point of view, a lens which has obscured local livelihoods, regional ecology and the hydro-intensity of agricultural development – to use Scott’s (1998) terminology, the GoSS and international community are “seeing like a state.” Seen is the need for agricultural growth to assure a prosperous economic future for South Sudan; unseen is the need to restructure the livelihoods of many Southern Sudanese to achieve large scale farming. Seen is the agricultural potential of South Sudan’s fertile land; unseen is the hydro-intensity of agricultural transformation. This dichotomy between how the development community view South Sudan and the human and environmental realities on the ground points toward inevitable negative, though unintended, consequences for the new nation.
**Parties to South Sudanese Agricultural Development:**

From an economic point of view South Sudan is not harnessing its full agricultural capacity. Three powerful actors, equipped with funds and political influence, have emerged with hopes to reform South Sudan’s agriculture: the GoSS (lacking in funds, yet motivated by the allure of foreign investment, to transform the nation into an “agro-industrial powerhouse”), the development community and private interests. These interested parties fall into two camps with different motivations behind expanding agriculture in South Sudan. While the GoSS and development community are ostensibly working to ensure the prosperity of the South Sudanese, foreign investors have, not surprisingly, prioritized their own profits. This section will explore the motivations of these parties and show that while their goals differ they will achieve them through the same means: agricultural development.

The development community and GoSS believe that South Sudan’s past, present and future issues with food security can be solved through agricultural growth. The GoSS and development actors have recognized that food aid can only last so long and that eventually South Sudan will need to produce its own food without external assistance – they hold that agricultural growth is the way to accomplish this (Barber 2011; European Union 2011; Norwegian People’s Aid 2011; The United Nations 2011; USAID 2011).

Following Salva Kiir’s call for agricultural action in South Sudan, the international community have mobilized behind the GoSS to enact this change. In December 2011, USAID hosted the International Engagement Conference for South Sudan where major figures in the development community and South Sudanese and American governments met to discuss the nation’s future. On the first day of meetings, Secretary of State Hillary Clinton addressed the conference and, among other things, highlighted agriculture as a main priority
of the United States in South Sudan:

As we help South Sudan diversify its economy, we are especially focused on agriculture. Although its soil is fertile enough to be one of Africa’s breadbaskets, most of South Sudan’s food is imported. USAID has launched a major set of agricultural initiatives to change that—including a groundbreaking effort to provide loans to South Sudan’s farmers. We also seek to partner with the private sector, which can provide advanced seeds and other technology that will help South Sudan’s farmers increase their yields (2011).

In her speech, Clinton did not acknowledge the Nile River or water, key environmental factors in agricultural growth. The United States, operating through USAID, is one of many powerful friends the GoSS has made who support agricultural growth. The European Union, United Nations and World Bank all have similar priorities in South Sudan, and smaller organizations such as FARM Africa, Oxfam and Mercy Corps have made similar pledges. The commitments and funds provided by the GoSS and development community make agricultural development seem very likely and the addition of foreign investors points towards inevitable reform.

Contrary to development organizations which view South Sudan’s lack of agricultural output as a problem, private investment firms are looking upon the country favorably – there’s a lot of profit to be made. South Sudan is rich in natural resources and very fertile land. Labor is largely unskilled, as between 50% (Barber 2011; Kaamara 2011) and 90% (European Union 2011) of the population live beneath the poverty line, and land is inexpensive (or so it would seem). To illustrate the allure of southern Sudanese land, a report published by the Norwegian People’s Aid (NPA) suggests that 9% of South Sudan’s land “has been sought or acquired by private interests” (Oakland Institute 2011). As an example of these “land grabs,” in March of 2008 Nile Trade and Development, an American

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11 The inconsistencies between these figures illustrate the anti-scientific nature of development practice.
based company, acquired the rights to 600,000 hectares of land (with the possibility of more) for 49 years at the price of $25,000. This land tenure deal also granted the company the following permissions: “Right to develop, produce and exploit timber/forestry resources... Right to trade and profit... Right to engage in agricultural activities... Right to explore, develop, mine, produce and/or exploit petroleum, Right to sublease any portion or all of the leased land” (Oakland Institute 2011). The lease agreement also stipulates that the profits from the land will be divided between the company and community where the land is located, but it remains unclear how the profits will be divided, and whether the local population even understand what is going on. A report by the Oakland Institute concludes that “even if the company [Nile Trade and Development] were to invest in a manner that does not require resettlement of local communities, such extensive development would still significantly affect patterns of land access and use for tens, or even hundreds of thousands of people” (2011: 2). From this lack of cooperation between local populations and foreign investors a larger point regarding international investors and their motivations in South Sudan can be drawn.

While the profit motives of private investors are not bad in and of themselves and can be used to the benefit of both the South Sudanese and investors, the ways in which they have framed South Sudan as an opportunity for economic profit are harmful. “Because it is YOUR Land, YOUR Natural Resources,” reads the homepage of Jarch Capital, an investment firm actively involved in the region. This motto is followed by “…Jarch combines its knowledge of geopolitics, logistics and security in Africa to enhance the value of its assets” (Jarch Management Group, emphasis added). These quotes suggest that on the surface, Jarch actively pursues the benefit of Africans over their own profits – of important note is the
emphasis it puts on “its [own] knowledge” rather than local knowledge. However, upon further analysis of Jarch itself, it becomes clear that this feigned interest in the benefits of private development for the South Sudanese is blatant hypocrisy. On the subject of South Sudan, Phil Heilberg, the owner of Jarch Capital, said that: “I saw the Soviet Union split up... Saw it up close. I realized there was a lot of money to be made in breakups, and I vowed that the next time I’d be on the inside” (Elamin 2011). Heilberg’s statement is reminiscent of Sudan’s colonial era; he sees South Sudan’s independence as an opportunity for economic profit, land and people to be exploited, with their benefits a secondary or tertiary consideration - a deeper analysis of other “land grab” deals in the region further supports this point. Follow up studies on Jarch’s investments in South Sudan can be instructive for scholars interested in post-conflict studies and the intersection of private capital and fragmented/coalescing states.

Thus, while the private sector and development community differ in their motivations, they share the same goal: agricultural growth. However, as my discourse analysis will show, local ecology has yet to be considered by these actors, pointing towards a poorly planned and potentially harmful approach to agricultural development.

The Documents:

In order to examine empirically how the international community have framed South Sudan I analyzed a sample of twenty-four documents, reports, and news articles from thirteen organizations shown in the table below. As it is hard to disentangle development in South Sudan from the region’s ecology, I chose the documents to represent a wide array of subject matter and a range of players in the development community, expecting that the inextricable
relationship between water, territory and people would be central, or at least touched upon, in the discussion of South Sudan’s future. To analyze the sample I used the qualitative data analysis software, ATLAS TI. I’ve organized the documents in the table below, with corresponding identifying numbers for future referencing:

**Table 1: The Documents**

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Organization</th>
<th>Type of Organization</th>
<th>Publication Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 - A Poverty Profile for the Southern States of Sudan.</td>
<td>World Bank</td>
<td>International Finance Institution</td>
<td>2011</td>
</tr>
<tr>
<td>4 - South Sudan Joint EU/MS Programming Document 2011-2013.</td>
<td>European Union</td>
<td>Intergovernmental organization</td>
<td>2011</td>
</tr>
<tr>
<td>8 - South Sudan: A Post-Independence Agenda for Action.</td>
<td>Save the Children</td>
<td>NGO</td>
<td>2011</td>
</tr>
<tr>
<td>9 - Realizing South Sudan’s Food Potential</td>
<td>Mercy Corps</td>
<td>NGO</td>
<td>2011</td>
</tr>
<tr>
<td>11 - Multi Donor Trust Fund – South Sudan</td>
<td>World Bank</td>
<td>International Finance Institution</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>Title</td>
<td>Organization</td>
<td>Type</td>
</tr>
<tr>
<td>----</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>12</td>
<td>Norwegian People’s Aid website clippings.</td>
<td>Norwegian People’s Aid</td>
<td>NGO</td>
</tr>
<tr>
<td>13</td>
<td>Agriculture Development Program. South Sudan Institute: Improving the Livelihood of the South Sudan People.</td>
<td>South Sudan Institute</td>
<td>Think Tank</td>
</tr>
<tr>
<td>17</td>
<td>UN Outlines Extent of Development Challenges Facing South Sudan After Independence</td>
<td>United Nations</td>
<td>Intergovernmental Organization</td>
</tr>
<tr>
<td>18</td>
<td>Promoting the Rule of Law</td>
<td>United Nations Development Program</td>
<td>Intergovernmental Organization</td>
</tr>
<tr>
<td>21</td>
<td>USAID Press Release: USAID Funds Program to Reduce Food Insecurity in South Sudan</td>
<td>USAID</td>
<td>U.S. Governmental Agency</td>
</tr>
<tr>
<td>22</td>
<td>South Sudan Transition Strategy 2011-2013</td>
<td>USAID</td>
<td>U.S. Governmental Agency</td>
</tr>
<tr>
<td>23</td>
<td>Sudan – Complex Emergency: Key Developments Fact Sheet 6</td>
<td>USAID</td>
<td>U.S. Governmental Agency</td>
</tr>
<tr>
<td>24</td>
<td>Sudan – Complex Emergency: Key Developments Fact Sheet 7</td>
<td>USAID</td>
<td>U.S. Governmental Agency</td>
</tr>
</tbody>
</table>

12 While this document discussed Sudan, as a whole, prior to secession, I only used the sections pertaining to Southern Sudan, which were conveniently separated from discussions regarding Northern Sudan.
The Findings:

On the whole my analysis shows that approaches to development differ depending on the type of institution in question. As per the documents, international finance institutions like the World Bank and governmental and intergovernmental agencies such as USAID and the UN have viewed development in South Sudan from a state-centric perspective, emphasizing the importance of training government officials, decentralizing government, strengthening the police force, and bolstering the national economy. On the other hand, NGOs like Oxfam, Save the Children, Norwegian People’s Aid and FARM Africa have paid more attention to grass roots development. For example, “Getting it Right from the Start,” the Oxfam report, co-signed by 25 other NGOs outlines 10 recommendations for “action” in South Sudan. Among them are “involve communities and strengthen civil society,” “promote pro-poor, sustainable livelihoods,” and “strengthen government capacity, from the bottom up.” However, the state-centric perspective privileged by the World Bank and UN is not entirely done away with. Supporting the GoSS remains a top priority of the Oxfam report’s signatory NGOs (Document #2). Despite their differences in approach the end goals of the development community in South Sudan are the same: bettering the lives of the South Sudanese and ensuring future prosperity of the young nation. What development actors have reached broad agreement on are the challenges the people and government of South Sudan currently face.

South Sudan is in what development organizations have termed a state of “chronic underdevelopment, acutely vulnerable to recurring conflict and climatic shocks” (Document #2). Statistics support these claims: only 20% of the population have access to basic health care, an infant mortality rate of 102 per 1000 live births, 73% illiteracy, 50% of Southern
Sudanese are food insecure, and 90% of the population live beneath the poverty line (Document #4). These numbers and statistics, however, can only provide a partial and limited view of the realities in South Sudan. As discussed by Ferguson (1990) and Scott (1998) "development" engineers approach countries from a technical point of view and in the process overlook country-specific environmental and human conditions that must be recognized for development to be successful. This technical bias can be seen in contemporary discourse through systematic analysis of the language used to discuss South Sudan. I have divided this examination into two parts. First, I will provide an overview of how the development community as a whole are framing and thinking about South Sudan through an analysis of the most frequently used words in my sample. In doing so I show that the development community has approached South Sudan through a technical and macro lens, illustrating the continuity of the development worldview critiqued by Ferguson (1990). Through this method of analysis I also show that development organizations have remained silent on the importance of water in South Sudan’s future. Second, I focus on their treatment of people, agriculture, water and land, by documenting how they discussed these specific subjects through an analysis of the language used by development actors. I recognize that an analysis of these documents is imperfect and may very well not reflect realities in a few months from this writing; however, at present they are the only tools we have to grasp yet emergent themes.

Thus, to begin I show the forty most frequently occurring words (out of a total 8350 usable words) in the documents I’ve analyzed, arranged in the table below:

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13 I have removed words I do not consider significant to my analysis, most notably conjunctions, prepositions and the names of specific development organizations.
Table 2: Word Frequency Chart

<table>
<thead>
<tr>
<th>Frequency Ranking</th>
<th>Word</th>
<th>Total Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>South/Southern</td>
<td>1487</td>
</tr>
<tr>
<td>2</td>
<td>Sudan</td>
<td>1400</td>
</tr>
<tr>
<td>3</td>
<td>Development</td>
<td>1044</td>
</tr>
<tr>
<td>4</td>
<td>Support</td>
<td>560</td>
</tr>
<tr>
<td>5</td>
<td>Capacity</td>
<td>558</td>
</tr>
<tr>
<td>6</td>
<td>Government</td>
<td>456</td>
</tr>
<tr>
<td>7</td>
<td>Areas</td>
<td>398</td>
</tr>
<tr>
<td>8</td>
<td>GoSS</td>
<td>396</td>
</tr>
<tr>
<td>9</td>
<td>State</td>
<td>390</td>
</tr>
<tr>
<td>10</td>
<td>Health</td>
<td>388</td>
</tr>
<tr>
<td>11</td>
<td>Population</td>
<td>385</td>
</tr>
<tr>
<td>12</td>
<td>Services</td>
<td>352</td>
</tr>
<tr>
<td>13</td>
<td>Project</td>
<td>351</td>
</tr>
<tr>
<td>14</td>
<td>Humanitarian</td>
<td>339</td>
</tr>
<tr>
<td>15</td>
<td>Sector</td>
<td>338</td>
</tr>
<tr>
<td>16</td>
<td>Security</td>
<td>338</td>
</tr>
<tr>
<td>17</td>
<td>Food</td>
<td>336</td>
</tr>
<tr>
<td>18</td>
<td>Assistance</td>
<td>328</td>
</tr>
<tr>
<td>19</td>
<td>Management</td>
<td>303</td>
</tr>
<tr>
<td>20</td>
<td>Strategy</td>
<td>295</td>
</tr>
<tr>
<td>21</td>
<td>Education</td>
<td>283</td>
</tr>
<tr>
<td>22</td>
<td>International</td>
<td>276</td>
</tr>
<tr>
<td>23</td>
<td>Partners</td>
<td>271</td>
</tr>
<tr>
<td>24</td>
<td>States</td>
<td>270</td>
</tr>
<tr>
<td>25</td>
<td>National</td>
<td>267</td>
</tr>
<tr>
<td>26</td>
<td>Agriculture/Agricultural</td>
<td>267</td>
</tr>
<tr>
<td>27</td>
<td>Local</td>
<td>262</td>
</tr>
<tr>
<td>28</td>
<td>Access</td>
<td>258</td>
</tr>
<tr>
<td>29</td>
<td>Water</td>
<td>258</td>
</tr>
<tr>
<td>30</td>
<td>Conflict</td>
<td>253</td>
</tr>
</tbody>
</table>
As documented above, the technical language that Ferguson found in Lesotho is well documented in the way the aid actors are talking about South Sudan; the local specifics of the country have been ignored in favor of macro terminology that any development scientist can understand. For example, “supporting” (#4) and “providing” (#38) “assistance” (#18) to the “government” (#6) of South Sudan (GoSS [#8]) is a main concern in contemporary discourse. Health (#10), food (#17), security (#15), poverty (#34), and children (#37) are all priorities for the development community. Thus, the word frequency chart reveals that the local realities of South Sudan have been replaced by universal development strategies. Turning to the question of agriculture (#26) and water (#28), one may initially remark that the development community has recognized the intimate relationship between hydro and agricultural development. Upon closer analysis, however, the opposite becomes stunningly clear. Of the 258 occurrences of the term “water” all but two returns dealt with issues of sanitation and providing clean drinking water for the South Sudanese. In the pages that follow I will examine the ways in which the development actors have overlooked and under discussed the livelihoods of local populations as well as the role of water in agricultural
development, gross oversights which may hold negative ramifications for soon to be affected populations.

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It is not a random coincidence that population (#11) occurs well before people (#41) in the sample I’ve reviewed. As mentioned in Chapter 2, South Sudan is home to more than 200 ethnic groups; however, in my analysis I have found specific ethnic groups to be largely absent from the development discussion. In the documents I have reviewed the terms ethnic/ethnicity and tribal/tribalism occurred a mere eleven times each; narrowing the search to individual names of ethnic groups returned no results. This raises the question, where are the people of South Sudan? To answer this question, we can turn to Ferguson (1990) and Scott (1998). The absence is not surprising – coming up with a standardized development project for South Sudan is far easier and more understandable to development technicians; however, as mentioned above, the South Sudanese haven’t been left out entirely. By examining the ways the development community has discussed ethnicity and tribalism, another question can be asked, how have the people of South Sudan been viewed by the development community? Two illustrative examples of developer engagement with ethnicity, provide insight: “Conflict continues among the Sudanese Armed Forces (SAF), armed opposition factions, militias, and ethnic groups. Insecurity, access restrictions, and bureaucratic impediments compromise the ability of relief agencies to respond to humanitarian and recovery needs,” states the USAID Transition Strategy for South Sudan, 2011-2013 (Document #22). A Save the Children report entitled, “A Post-Independence Agenda for Action,” describes South Sudan in a similar fashion:
The country has more than 52 tribes, with complex relationships and often a history of mutual distrust and suspicion. Perceived inequality in access to political, social and economic opportunities feeds these rivalries, with tribalism often being used as a ‘political tool’. There is a particular risk of young men taking up arms along tribal lines or joining militias. They have grown up during years of violent conflict and now face an uncertain future (Document #8).

These quotes are suggestive of a problematic dynamic. When the people of South Sudan are visible at all, they are framed as a problem to be managed, a “danger” – reminiscent of Anglo-Egyptian desires to control nature and the hydro-geography of the South itself – and not as a stakeholder in the nation’s future. If the development community continues with this trend it is unlikely that they are positioned to appreciate and account for the complex interactions between people and the environment that have sustained the inhabitants of South Sudan for centuries.

Along with the effacing of Southern Sudanese people from the development landscape in South Sudan there has been a glaring gap between how the development community understand agricultural growth as a tool for economic prosperity and the way the South Sudanese have traditionally practiced agriculture. In a Mercy Corps report entitled “Realizing South Sudan’s Food Potential,” the organization demonstrates its clear misunderstanding of South Sudan: “Decades of civil war have left many with only the knowledge for subsistence farming... [this] lack of agricultural knowledge was highlighted by the fact that very little purchasing actually took place, despite a wide range of seeds and tools being available. Many participants were wary of investing their limited resources into seeds and tools that they did not know how to utilize” (Mercy Corps 2011). Mercy Corps’ report negatively connotes “subsistence farming” suggesting that this practice is a “waste” of potential economic profit. Another such example of foreign entities privileging Western
farming techniques is articulated by Jarch Capital. On their website they state:

Currently, Jarch is commencing its agribusiness activities in Southern Sudan which has some of the most fertile soil on earth. Jarch has the unique opportunity to lease vast tracts of prime farmland and implement modern farming techniques to enable sustainable food production to address significant local unmet market demand and solve regional food insecurity (Jarch Management Group).

As Scott (1976) reveals in *The moral economy of the peasant*, these views of agriculture are not necessarily applicable in South Sudan, as profit is not the primary objective of rural farming. A capitalistic approach to agriculture requires taking risks which doesn’t necessarily guarantee food security. Thus, in peasant societies, farmers often minimize risks to their food security, for example, by diversifying crops (1976). Considering the recent instability of food security in South Sudan, it is not surprising that the southern Sudanese may avoid taking risks to ensure a large enough crop to feed themselves; however, this consideration has been unintentionally ignored as a result of the discourse on the benefits of agricultural growth – economic and food security.

Returning to the Mercy Corps article, one must problematize this notion of a “lack of agricultural knowledge” behind limited investment in tools and seeds, an issue which is not new in the scholarly literature on Sudan. Over twenty years have passed since the first publication of Alex De Waal’s *Famine that Kills: Darfur, Sudan*; however, his findings remain salient to this day – a testament to the ahistorical and aregional worldview of development actors. In his book, De Waal examines the delivery of food aid during Darfur’s famine of 1984-1985. De Waal describes relief agencies as “disaster tourists,” who enter poverty-stricken countries to raise international alarms and funds without an understanding of local contexts. They propose short-sighted fixes to problems such as the introduction of new farming technology and delivering food aid, which De Waal shows don’t necessarily
deliver as much positive change as relief agencies expect. In the case of Darfur’s famine, De Waal documents the unsuccessful impact of delivering seeds to Sudanese farmers: “the problem is that Darfur has a varied ecology and farmers use a variety of strains of millet and sorghum. Farmers in some villages use particular strains which are rarely found elsewhere. A uniform distribution of one or two types of seed throughout Darfur would do little good” (219-200). With this in mind we can view the lack of investment in tools and seeds by South Sudanese farmers not as a result of lacking agricultural knowledge, but rather due to a complex and time tested understanding of their local environment. Returning to Darfur’s famine, De Waal argues that food aid did not save as many lives as expected; long-term indigenous survival skills did, and had relief agencies focused on providing “clean water, better sanitation, and measles vaccination, most if not all of the famine deaths could have been prevented” (2005:8). Here the development community in South Sudan are open to more critique. While South Sudan’s food security may be compromised, by clinging to food aid and “reforming” farming practices the relief agencies may be prolonging problems or even introducing new ones, rather than effectively addressing them. Unfortunately, the discourse on agricultural growth has spread its roots deep and, at this point in development practice, major transformation of farming practices seems likely.

To fully grapple with the complexity at hand it is necessary to understand how the development community view agriculture in South Sudan. Considering that when combined the words “agriculture” and “agricultural” were the 26th most frequently used term in the documents I’ve analyzed, it is clear that agriculture is an important feature of development in South Sudan. Thus, during my document analysis I catalogued the various ways in which “agriculture” and “agricultural” appeared in the chart below. As it would be impossible to
document each time these terms were used, I have indicated which organizations have prioritized agricultural development with corresponding document numbers:

**Table 3: Ways Agriculture is Discussed**

<table>
<thead>
<tr>
<th>Ways the Development Community Talk about Agriculture</th>
<th>Tool for economic growth and food security: Oxfam (2); The European Union (4); Norwegian People’s Aid (12); United Nation (15); USAID (21, 22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Relation to Land Use:</td>
<td>Oxfam (2); European Union (4); United Nations (17); USAID (22)</td>
</tr>
<tr>
<td>South Sudan’s Wasted Agricultural Potential:</td>
<td>African Development Bank (7); Save the Children (8); United Nations (15); USAID (22)</td>
</tr>
<tr>
<td>In Relation to Water Use:</td>
<td>The European Union (4)</td>
</tr>
</tbody>
</table>

As shown above, the development community is actively discussing three features of agricultural reform – its use as a tool for economic growth and providing food security; its relationship to South Sudanese land; and the wasted agricultural potential of the South (the last two are often conflated). On the other hand, they have remained largely silent on the relationship between water and agriculture. This analysis provides evidence to support my point that the development community is not attending to the necessity of hydro-development in South Sudan if large scale agricultural reform is to be implemented (De Mabior 1980). By sequestering water, land and people to their own respective categories, if discussed at all, the development community has demonstrated their clear misunderstanding of South Sudan as a result of modernist biases. Thus, before discussing the consequences of agricultural expansion, I will illustrate the supposed benefits of agricultural development through select representative quotes from the sampled documents.

According to the African Development Bank’s “South Sudan Development Plan:
Medium Term Capacity Development Strategy, 4th Draft.” “Many have described the country’s prevailing high poverty levels – over 52 percent of South Sudan’s population live below the poverty line – to recurrent wars and strife, which prevented productive, large-scale tillage of agricultural land” (Document #1). This quote embodies much of the discussion on the potential for South Sudan’s agriculture as it: 1) attributes the nation’s poverty to a lack of agricultural practice; and 2) suggests that “large-scale tillage” of South Sudanese land is a given in the absence of “wars and strife.” This popular view of agricultural development is furthered by USAID’s “South Sudan Transition Strategy 2011-2013,” which states that, “Agricultural development is viewed as the engine that will not only allow South Sudan to diversify its economy away from oil dependence, but also to directly reduce poverty and food insecurity” (Document #22:10, emphasis added). It seems as though the African Development Bank and USAID, two major players in South Sudan’s future, understand agricultural development as a cure all to South Sudan’s poverty and food insecurity. Furthermore, USAID’s use of the word “engine” draws parallels with Salva Kiir’s vision of South Sudan as an “agro-industrial powerhouse.” These mechanical descriptions of South Sudan suggest that if adequately “developed” the nation could serve as a factory for regional food production; however, the documents suggest that, as it stands, this assembly line is running too slow, with not enough outputs.

South Sudan’s virgin, fertile land has been the subject of much discussion amongst the development community, who believe its agricultural potential remains untapped. According to the European Union, “While 47% of the population of South Sudan is food deprived, only 4% of arable land is cultivated and total livestock and fish production are 20% and 10% of their respective potential” (Document #4:8) USAID, on the other hand, provides
a different number on the country’s uncultivated land: “South Sudan has a land area greater than that of France, 90 percent of which is arable, yet only 10 percent is currently under cultivation.” To illustrate the fertility of South Sudanese land, the USAID report goes on to say that “the potential for agricultural growth is tremendous, with more than 80 percent of its land classified as having a length of growing period equal to or more than 180 days, indicating sufficient moisture and temperature conditions to support crop growth conditions, even under rain-fed conditions” (Document #22). Despite these differences in percentage (EU listed 4% of land cultivated, while USAID listed 10%), the sentiment remains the same: South Sudan’s land is arable, yet virtually untapped. Oxfam’s “Getting it Right from the Start: Priorities for Action in the New Republic of South Sudan” comments on this “lack” of farming practice: “Despite the richness of South Sudan’s natural resource base, the vast majority of the population relies primarily on subsistence agro/pastoralism” (Document #2). This document espouses the view that the “subsistence agro/pastoral” livelihoods of the South Sudanese are to blame for the lack of larger agricultural practices, yet lost is the fact that, as documented by Evans-Pritchard (1940), the lives of transhumant populations in South Sudan are intimately tied to the environmental conditions created by the Nile River, its tributaries, and the land they inhabit. As a result of the development worldview which understands its practice as scientific and universal, the realities of South Sudan have been lost, most notably the necessity of large-scale hydro-projects to tap into the country’s agricultural potential, expanded upon below. This lack of attention to water is consistent with past development practice, as highlighted in John Garang De Mabior doctoral thesis (1980).

During the 1970s, the fertile land of Southern Sudan fell under the world’s eye as the government of Sudan sought to establish itself as a regional agricultural power. Sudan came
to be described as the “‘Breadbasket of the Middle East,’ a ‘Granary of the world,’ and a ‘land of tomorrow.’” During this time, as plans for the Jonglei Canal were being finalized, the Government of Sudan turned its eyes to “the long-neglected rich agricultural potential of Sudan’s Southern Autonomous Region” (De Mabior 1980:2). It was expected that on top of providing Egypt and Sudan with an increased water supply, the canal’s construction would curb the flooding which challenged large scale farming in the South. As highlighted in the quote that began this chapter, David Hopper argued that if the Southern swamps were drained South Sudan could produce “enormous amounts of food – as much perhaps, as the entire world now produces” (De Mabior 1980:113-114). Hopper was not alone in this belief, as “A visiting Canadian economic mission was so impressed with Sudan’s potential that it reached the astounding conclusion that, if well organized, the Sudan [could] feed one-third of the world’s population” (De Mabior 1980:1, emphasis added). These quotes illustrate South Sudan’s impressive agricultural potential. At the same time, the inconsistencies between Hopper’s and the Canadian estimates of potential food production highlight the inexact “science” behind their findings, a symptom of their worldview of development. Most importantly, they emphasize the necessity of “reorganizing” South Sudan to accommodate agricultural growth.

At the time of De Mabior’s research two approaches to developing agriculture existed, the “improvement approach,” which “[emphasized] the modernization of the present traditional subsistence agriculture,” and the “transformation approach” which sought to “transform traditional subsistence agriculture through mechanized or semi-mechanized modern agricultural schemes comparable in scope to those of North-central and North-eastern Sudan... [and] embraces from the onset commercial agricultural production with a
large export potential‖ (1980:3-4). De Mabior goes on to say that:

Sudden and disruptive change in the ―Dinka, Nuer or Shilluk way of life‖ is seen by advocates of this [transformation] strategy as a necessary and inevitable aspect of socio-economic development and national integration of the area. The problem for the inhabitants of the JPA does not lie in the avoidance of sudden and disruptive change, but rather shaping and coping with such change. (1980:4)

In the case of contemporary South Sudan, with development actors, the GoSS and private investors pushing for “agro-industry,” one can anticipate characteristics of the transformation approach in coming years. De Mabior found that in order to make large scale modern agriculture viable in the Jonglei area ten conditions would have to be met. Of particular interest for this study are his following recommendations:

1) [The] Development of drainage and irrigation, since it is unlikely that any rural development strategy implemented in the JPA can result in significant development unless the physical disincentives to farming caused by the frequent dangers to crops from floods and droughts are removed or drastically reduced.... 4) [The] Introduction of new forms of tenure and firm organization consistent with demands of modern sustained production, but not disruptive of traditional society in a major way... 5) [The] Spatial reorganization of the countryside into more compact villages than the present dispersed pattern of homesteads and farm plots... 9) [And] Self-reliance and efficient use of local resources including abolition of or extensive modification in the annual transhumance. (1980:215-216)

In regards to the first recommendation, De Mabior argued that although the primary beneficiaries of the Jonglei Canal were Egypt and Northern Sudan, its completion would “[provide the] necessary conditions for drainage and irrigation without which modern commercial agriculture cannot be viable in the [Jonglei] area” (1980:43). Thus, as argued throughout this thesis, transforming South Sudan into a functional “agro-industrial” machine will require the construction of intensive hydro-projects. Furthermore, De Mabior also points out that successful large scale farming would necessitate drastic changes in Southern Sudanese livelihoods. The realities of environmental and social reorganization as a byproduct of agricultural transformation couldn’t be clearer.
Although three decades have passed since De Mabior published his thesis, his findings remain consistent with today’s environmental conditions in South Sudan, as floods will pose a serious challenge to agricultural growth. On September 18th 2011, South Sudan’s minister of agriculture indicated that the annual harvest would be lower than expected as flooding in Jonglei State had submerged about 4,000 hectares of crop land (Actually 2011). This is not an uncommon occurrence. For thousands of years flooding has disturbed sedentary agriculture in South Sudan and the widespread practice of transhumance developed as an adaptive strategy to these environmental extremes. If the GoSS, international community, and foreign investors do indeed plan to turn South Sudan into an “agro-industrial powerhouse,” flooding will be of primary concern. To base an economy (and business) on agriculture requires predictable crop returns, currently an impossibility in South Sudan, yet the beginnings of hydro-development are beginning to take shape in South Sudan.

On September 23rd, 2011 South Sudan’s Minister of Water Resources and Irrigation, the Hon Paul Mayom Akec announced that the GoSS would begin constructing a dam outside the northwestern city of Wau. Upon completion, the dam will be used to irrigate nearby farm land as well as generate hydropower. Egypt has endorsed the dam project as part of its attempts to foster a strong hydro-political alliance with South Sudan and since 2010 has sent Egyptian engineers and surveyors to draw up dam plans and assess the economic and social ramifications of its construction (Egypt State Information Service 2010). No further information is currently available on the dam; however, a report from the 2008 conference “Water for Agriculture and Energy in Africa: the Challenges of Climate Change” suggests that the dam at Wau is one of three dams planned in South Sudan, with two others anticipated at Juba and Tori – construction dates are set for 2015. These dams will undoubtedly pale in
comparison to larger projects in the region; however, they may change environmental conditions and livelihoods of local populations.

As mentioned, De Mabior also stipulated that agro-industry in South Sudan would also require a significant reorganization of local livelihoods. Recent events in Western Equatoria state suggest that the GoSS is beginning to implement such change. On April 27th, 2012 John Kuze, the commissioner of Yambio county “urged all the citizens to take agriculture seriously as he further warned that strong measures may be taken against those who may not stand by the policies the government is taking to improve the livelihoods of the population in the State” (Nashion 2012). Are we seeing the beginnings of the GoSS imposing certain livelihoods upon its people? In Western Equatoria the Azande have practiced agriculture for centuries, however, they have never been forced to do so. If compulsory agriculture is being advocated for by the GoSS, what does this mean for other parts of South Sudan where agriculture has not been traditionally practiced? Will the Nuer, Dinka, and Shilluk living in one of South Sudan’s most fertile regions eventually be forced to take up agriculture and forsake transhumance? Only time will tell, yet the beginnings of agricultural development in South Sudan are cause for alarm.

Evidenced by the silence on South Sudanese livelihoods and water, the magnitude of agricultural growth has yet to be thoroughly discussed by development actors on an institutional level. These gaps in knowledge, caused by the technical worldviews of development actors, may very well result in implementing organizations not being able to effectively respond to issues of changing livelihoods and resettlement effectively, if at all. Given these possibilities, an examination of Sudan’s experiences with resettlement, as a result large dams and canals, can help us anticipate what may be in store for the South
Sudanese.
Chapter 5: Dams, Canals, and Resettlement: What Can Be Learned from Sudan’s Past?

Hydro-intensive agricultural development in South Sudan is imminent considering the motivations of the GoSS and funds of the aid community and private investors. Given that poorly planned and executed hydro-projects and the accompanying resettlement initiatives can produce disastrous effects for local populations, the development community in South Sudan must undertake agricultural growth with caution. In what follows, I show the potential consequences of hydro-development through an analysis of the Jonglei Canal and Aswan High Dam, large hydro-projects which had disastrous implications for affected populations in Sudan. I also examine how such failures can be averted by summarizing the World Commission on Dams report (WCD) which contains policy guidelines to improve the outcomes of future hydro-projects. However, I will show that the suggestions put forth by the WCD have yet to translate into improved development practice, as a result of the inability of development organizations and States to move beyond the century old “technical” and “universal” development paradigm.

This chapter begins with an overview of development-forced displacement and resettlement (DFDR), a growing field of inquiry amongst anthropologists. Over the past fifty years the construction dams has displaced tens of millions of people. More recently, according to Thayer Scudder, special economic zones and plantations have become the leading cause of forced migration (personal communication, April 2nd, 2011). In South Sudan where hydro-development and large farming operations are both likely an understanding of DFDR is of particular importance. I first examine why resettlement initiatives most often fail
their intended goals of improving the lives of displaced persons and what can be expected for affected populations during the resettlement process. I then move into a discussion of Sudan’s past experiences with ecologically disruptive events through the case studies of the Jonglei Canal and Aswan High Dam, in order to illustrate the possible negative repercussions of poorly planned, if ostensibly well-intentioned, resettlement programs. Both of these cases provide a useful and productive framework to view the human cost of hydro-projects, specifically in the case of South Sudan, as both severely disrupted the lives of local populations, one nomadic and the other settled. This attention to modes of livelihood is deliberate, as the South Sudanese population is not monolithic and agricultural development may affect groups in different ways. I’ve organized my analysis of the Jonglei Canal and Aswan High Dam into three sections. I first discuss the projects themselves and the outcomes for the resettled populations – in the case of Jonglei, there was no resettlement program, and thus I examine the local repercussions of the canal’s construction. Second, I ask what went wrong, looking specifically at the planning and resettlement stages of each project. Lastly, I look at what can be learned from these specific case studies in the construction of new dams and irrigation projects in South Sudan. Despite the fact that hydro-development in South Sudan will occur on a much smaller scale than the Jonglei Canal and Aswan High Dam, disruption of livelihoods and forced displacement are inevitable. Thus, these earlier projects are instructive regarding the possible repercussions of forced displacement as the GoSS, international aid community, and private investors pursue hydrological and agricultural development.

The concluding section of this chapter will focus on the ways the GoSS, development actors, and foreign companies can avoid repeating the harmful effects produced by the
Jonglei Canal and Aswan High Dam through an examination of the World Commission on Dams report; however, I will show that since the WCD’s publication twelve years ago, development practice has yet to see substantial change due to the worldview of development actors, both State and non-governmental.

*Development-Forced Displacement and Resettlement: Success and Failure*

Regardless of where infrastructural development occurs, the displacement of communities is an oft seen side-effect. Road building, factory construction, and dam projects are but a few development initiatives that may physically displace and disrupt people’s lives. The majority of development-financed projects where DFDR occurs have been a result of dam construction – it is estimated that between “forty and eighty million people [have] been relocated in connection to forty-five thousand large dams located around the world” (Scudder 2009: 26). While from a state-level economic perspective, these dams may have been beneficial, the large majority led to a significant reduction in living standards for the displaced. As documented in Scudder’s recent fifty dam survey, in only three cases did living standards improve and only five witnessed a return to previous standards (Scuddler 2005). It is clear that dam-induced displacement has been largely unsuccessful in positively affecting the lives of the displaced. Before discussing why DFDR has produced failure, I will discuss what constitutes successful and unsuccessful resettlement initiatives.

In this chapter, I define “successful” resettlement as one in which the displaced population experiences either an increase in living standards, or at least a return to previous living conditions. The resettlement theories of Scudder (2009) and Cernea (2000) are particularly helpful when assessing the successes and failures of DFDR. Scudder’s four-stage
model of resettlement draws on the few cases of DFDR where a “favorable” outcome was achieved. Central to his theory is the role of resettlers in producing “success.” Scudder has identified four key stages in the resettlement process: 1) the planning stage; 2) adjustment and coping; 3) community formation and economic development; and 4) handing over and incorporation (Scudder 2005). Scudder has noted that the first two stages are the most challenging for resettlers. During the planning stage of “successful” resettlement initiatives, Scudder found that, among other things, the affected populations were actively involved in the planning process and that the organization in charge of relocation stressed the benefits of resettlement, rather than highlighting loss and compensation.

The second stage, adjustment and coping, deals with the resettlement process itself, the physical displacement of affected populations from their homes to new settlement areas. During this period Scudder has found a sudden drop in living standards occurs, followed by risk averse behavior on the part of resettlers, which may last for several years.

Once the third stage begins, community formation and economic development, Scudder has documented a change in resettler behavior from “a risk-averse stance to a risk-taking stance that eventually characterizes the majority. At the same time wealth differentials increase, as does social stratification” (Scudder 2005:36). In order for these changes to occur two conditions must be met. “The first requires resettlers to change their behavior radically. The second requires development opportunities... into which settler initiative can be channeled and appropriate infrastructure, such as feeder roads and service and marketing centers” (Scudder 2005:37). If these conditions are not met, stage 3 may result in increasing impoverishment, as witnessed in the case of the Kariba Dam.

The fourth stage, handing over and incorporation, brings the relocation process to its
end as the second generation of resettlers are integrated into the national political economy. In order for this goal to be met three conditions must be satisfied. First, the project agency must hand over the administration of the community to “settler institutions; to line ministries dealing with agriculture, education, public health and other routine government responsibilities; to the private sector; and to NGOs.” Second, the living standards of the resettled community must “continue to improve at least in line with improvements in neighboring areas.” Lastly, the second generation must have the necessary institutional and political capabilities to “compete for their fair share of national resources” (Scudder 2005:40); however, it is rare for resettled communities to reach Stage 4. While Scudder’s theory is a useful tool for examining the role of the resettlers themselves in the relocation process, he concedes that it does not do a good job of explaining “the ‘backsliding’ that occurs when an initial period of community and economic development associated with Stage 3 is not sustainable...” (Scudder 2005:48). Therefore, Scudder proposes merging his theory of resettlement with Cernea’s impoverishment risks and reconstruction model.

Following an analysis of failed resettlement case studies, Michael Cernea was able to identify eight risks experienced by resettled populations: “landlessness, joblessness, homelessness, marginalization (involving downward mobility), increased morbidity and mortality, food insecurity, loss of access to common property, and social disarticulation.” His study was also influential in that it provided concrete guidelines for future resettlement projects and “emphasized the importance of extending risk analysis to affected communities” (Scudder 2005:46). With the successes and challenges of resettlement presented above, we must now ask why these initiatives most often produce failure.

In his 50 dam study, Scudder found five statistically significant reasons behind failed
resettlement initiatives. They are as follows: “lack of political will on the part of project authorities and governments, lack of finance for planning and implementing resettlement, lack of capacity in terms of numbers and expertise of resettlement staff, lack of development opportunities for improving livelihoods, and lack of community participation in the resettlement process” (Scudder 2009:28). In my examination of the Jonglei Canal and Aswan High Dam, below, these characteristics of failed resettlement processes will be apparent.

The Jonglei Canal

It would be remiss to discuss anticipated hydro-projects in South Sudan without referencing the Jonglei Canal. For one, the partially completed project – SPLA rebels halted its construction in 1984 – has been the South’s only experience with large scale hydro-development and is ingrained in the memories of many Southern Sudanese. Second, the canal illustrates how transhumant populations have been “resettled” or “compensated” for the loss of their habitable areas. Considering how few settled communities exist in South Sudan, one can imagine that dams and irrigation projects, no matter how small, will disrupt the livelihoods of pastoral populations. Unlike upcoming agricultural development in South Sudan, the construction of the Jonglei project was explicitly not to the benefit of the southern Sudanese, and therefore held no possible benefits to local inhabitants. Furthermore, few provisions for compensation were made by the Egyptian and Sudanese governments. The impact of the canal was disastrous in terms of its environmental and human costs, and recognizing this fact, Southern Sudanese rebel leaders were able to mobilize popular support against the canal and, through violent means, stop its construction. Nevertheless, the livelihoods of local populations remain disrupted to this day as a result of poor planning and
implementation of the project.

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Project Outcome:

While the Jonglei Canal project, the product of Anglo-Egyptian discourse on the Sudd, was first conceptualized in the early 20th century, construction did not begin until 1978\(^{14}\). If completed, the canal was expected to divert the White Nile’s waters from the Sudd, adding billions of cubic liters to Egyptian and Sudanese water reserves. The effects of the canal on the Southern Sudanese people and environment were viewed as a necessary sacrifice for perceived downstream water needs – had Egypt been more efficient with its water use no need would have existed for years to come (Johnson 2003:47). In 1978, when excavators began to tear through the Sudd, a century and a half of Anglo-Egyptian discourse materialized into unprecedented physical violence against Southern Sudanese hydrogeography; however, Egyptian-Sudanese action against the swamps was met by Southern resistance.

On February 8, 1984, the militant wing of the Sudan People’s Liberation Movement (SPLM) attacked and overran the Camp and Headquarters of the Compagnie de Construction Internationales, a French company hired to build the Jonglei, effectively bringing its construction to a halt (Collins 2001:368). John Garang de Mabior, leader of the SPLM/SPLA, commented on these events in his publication “The Genesis of the Sudan People’s Liberation Movement:”

\(^{14}\) The reasons for this delay are enumerated at great length in Tvedt Terje’s *The River Nile in the Age of the British: Political Ecology & the Quest for Economic Power* (2004).
The magnitude of these operations... forced CCI to stop digging the Jonglei Canal and Chevron Company to close down all its oil operations in the South. Hereafter, Nimieri [President of Sudan] can no longer deceive the Sudanese people that prosperity through exploitation of oil and water, is just around the corner. When the SPLA liberates our country under SPLM government, these two precious liquids shall be developed and used for the benefit of the whole Sudanese people (Collins 2001:368).

Popular sentiment further reflected John Garang’s feelings regarding northern exploitation of southern Sudanese resources: “Selling out our land, selling out our water and sold our land out to be dug as [a] canal that brought bombs for revolution [sic]” became a rallying cry during the early years of the civil war (Deng Atem 2006). Considering the environmental and social ramifications of the Jonglei Canal, coupled with the northern (Arab) influence behind the project, southern Sudanese outrage is not surprising. The event of SPLA resistance against the Canal underscores the very political nature of development and demonstrates the need for development organizations to understand and incorporate the political into project plans. Fortunately for the people of South Sudan, the project has remained on hiatus since 1984. Nevertheless, the canal still impacts the day to day lives of the Southern Sudanese.

“Sarah” and “Lucy,” two of the European built canal excavators can be seen for miles in Jonglei state. Towering over the local landscape, the now inactive diggers serve as a constant reminder of the damage that these dormant machines did to South Sudan’s hydro-geography and people. Though only two-thirds complete (240 of 360 kms), the Jonglei Canal has permanently altered indigenous ways of life. In order to feed their cattle during the dry season, Dinka and Nuer herdsmen must make their way to the toic (grazing lands). However, the construction of the canal has disturbed this long practiced migration. While bridges were

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15 Since South Sudan’s independence vote in January 2011 the Egyptian government has actively pursued the revival of the partially constructed canal. Given the human and environmental costs of the project the chances of the GoSS agreeing to its completion are slim to none. Nevertheless, Egypt’s relentless attempts at canalizing South Sudan goes to show the longevity of Anglo-Egyptian discourse on the Sudd.
initially promised to facilitate cattle grazing, construction has yet to be seen. Dinka and Nuer herdsmen have been left to their own devices to reach the toic, which has resulted in the creation of makeshift “ramps to drive their cattle across to the intermediate lands and the toic pastures” (Collins 1994:134). It is clear that the project resulted in a permanent decrease in the living standards of the affected South Sudanese.

What went wrong?

Planning:

As shown in chapter 3, Anglo-Egyptian officials, scientists and engineers spent decades planning the most effective way of extracting water from the Sudd. Charting, mapping, graphing, and aerial photography all contributed to designing the “ideal” canal. From an Egyptian and Northern Sudanese point of view the canal was a saving grace, Cairo and Khartoum could increase their available water supply at minimal cost. While building the canal would incur a human and environmental toll in Southern Sudan, Northern powers were not concerned with these sacrifices – the southern region was Khartoum’s hinterland, a place and people to be exploited. Thus, besides the canal’s location, the project had little to do with Southern Sudan and all to do with the potential Northern hydro-benefits of its construction. This is best illustrated by the endeavors of the Jonglei Investigation Team and the “planned” compensation offered to Southerners.

As an afterthought to thirty years of careful data collection and planning the Jonglei Investigation Team (JIT) was formed rather belatedly in 1946 by the Anglo-Sudanese government to assess the impact of the canal on the regional environment and local populations (Collins 1983:350). The final report of the JIT provided a qualitative analysis of
the major impacts of the Jonglei Canal on the southern Sudanese environment and indigenous peoples. To briefly summarize their conclusions, the JIT argued that any canal project in the Sudd would result in a significant reduction in seasonal flooding and the drying of large areas of the swamp regions. As mentioned previously, the livelihoods of the Shilluk, Nuer and Dinka (to name but a few of the ethnic groups inhabiting the region) are dependent on the grazing lands created by the seasonal flooding. Furthermore, the JIT contended that the drying of the swamps could lead to a significant decline in fisheries, which at times contributed to indigenous food security. Despite the cautionary report, Egypt and Sudan began to actively pursue the canal project in the 1970s.

By 1974 the Jonglei Canal was approved by the Sudanese Ministry of Irrigation and Agriculture to supply water to newly planned agricultural expansion in Sudan and Egypt. It was projected that the South would also receive some minor benefits in the form of “improved transport, cash crop production schemes, drinking water and drainage.” According to Douglas Johnson, “from this point onwards, support of the canal project almost became a prerequisite to any Southern politician wishing to maintain an active political career” (Johnson 2003:47). In fact, Khartoum managed to silence public opposition to the project by violently squashing a demonstration against the canal in Juba, described below:

When agreement on digging the canal was reached in February 1974, rumors started to circulate in Southern Sudan that some two million Egyptian peasants would be resettled in the canal area to farm the potential irrigated area that would be opened up by the canal. Heavy rioting broke out in Juba, Capital of the Autonomous Southern Sudan, in October 1974 leaving 3 people dead and about 200 arrested, including members of the Regional Assembly of Parliament (De Mabior 1980:53).

As a formality the Sudanese government made provisions to compensate local populations by building roads, constructing bridges across the canal to facilitate cattle herding, and laying
down fresh water piping (Johnson 2003: 48). The construction of the canal was also anticipated to facilitate large scale agriculture in the region, as chronicled by De Mabior. No accommodations were made for resettling displaced communities. Perhaps part of this lack of resettlement foresight lies in the migratory nature of Southern Sudanese transhumant populations; however, it would be more apt to attribute the lack of resettlement planning to purposeful Northern neglect of the South.

“Resettlement: ”

It is clear that the planning behind the Jonglei Canal was intentionally one sided. Egypt and Khartoum developed a project that would benefit them at whatever cost to the people and environment of Southern Sudan. Given these circumstances the only way to determine the “success” of the “resettlement” phase of the Jonglei Canal is in terms of the delivery of compensation measures promised to the Southern Sudanese, which on the surface aimed at bettering the living conditions of the affected populations.

While Sudanese officials rhetorically set aside funds to build roads, bridges, fresh water piping, and to develop the region’s agriculture, none of these projects were delivered as promised. Instead they were either cheaply built, or not at all. Furthermore, while cash crop production schemes were envisioned by Khartoum, they eventually cancelled their development due to high startup costs and maintenance. Socio-economic development in Jonglei was limited to the construction of a few schools and rain water reservoirs (Johnson 2003:48). On the whole, the project did not serve the people of South Sudan and resulted in a decline in their living conditions.
What can be learned from the Jonglei Canal?

As the development community begin to draw up plans for agricultural growth, the Jonglei Canal highlights the need for projects to give equal consideration to the economic benefits and the human and environmental costs of development. As highlighted by the World Commission on Dams report, central to the planning process should be a commitment to communication with local populations and well-thought out and adequate resettlement and compensation initiatives. Developers must keep in mind that the human and environmental costs of hydro-projects are unavoidable; however, through careful planning and resettlement procedures, a repeat of the Jonglei Canal is avoidable.

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The Aswan High Dam: The Sudanese Experience

In 1959 the governments of Egypt and Sudan signed a revised Nile Waters Agreement – the first was signed in 1929 – which on top of allocating annual Nile water usage quotas for each country, allowed for the construction of the Aswan High Dam. Besides being an architectural wonder – the completed dam stands 111 meters tall and nearly four kilometers wide – the High Dam would “protect” Egypt from floods and drought by permanently storing water in what is now called Lake Nasser. Furthermore, the saved water would allow Egypt to pursue ambitious agricultural growth in previously inaccessible desert regions, and would produce 10 billion kilowatts of electricity. Sudan would also benefit from the dam’s construction, as the 1959 Agreement derived Khartoum’s new Nile quota (18.5 billion) from the water to be stored in Lake Nasser. Economically speaking, the High Dam’s construction was beneficial to both countries – the increase in Egyptian agricultural productivity and hydropower paid off the dam’s cost within two years – however, the construction of the dam
was not without significant human costs (Scudder 2003).

Along with the construction of the Aswan High Dam came the forced displacement of 100,000-120,000 Nubians, whose homeland of Nubia, its towns and historic ruins, now lies at the bottom of Lake Nasser. The focus of this section will be the experience of the 50,000-70,000 Sudanese Nubians who were relocated to Khashm el Girba, 850 kilometers south of their homeland (Sørbo 1985:12). Unlike the Egyptian Nubians whose resettlement has been viewed as a success (Scudder 2003), the relocation of Sudanese Nubians was poorly planned, sloppily executed and failed to benefit or adequately compensate the displaced population.

The Aswan High Dam was also an articulation of foreign political interests in the region. As Egypt could not finance the High Dam on its own, President Nasser turned to the international community for assistance. The Cold War political climate allowed for Nasser to pit the United States and USSR against each other in a funding war for Egypt’s political allegiance. While the United States was initially supportive of the dam’s construction it eventually withdrew its pledged funds as Nasser’s ties with the USSR grew stronger. The funding war came to a close when the Russian government pledged and delivered a twenty year loan of $1,120,000,000 at 2% interest (Dougherty 1959:23). Considering the political and economic interests the international community hold in South Sudan, it would not be surprising for the construction of dams to be well funded and supported by foreign governments.

*Project Outcome:*

Unlike the Jonglei Canal, the Aswan High Dam was completed with very little violent resistance from Nubian populations. While demonstrations were held in Wadi Halfa, the
largest town in Sudanese Nubia, prior to relocation, they were targeted against the way the Government of Sudan was handling their resettlement, not the Aswan project itself. As expanded upon below, Khashm el Girba, the resettlement site, was not popular amongst displaced Nubians. Nevertheless, Khartoum carried on with its controversial choice. The results were devastating. Little to no attention was paid to Nubian livelihoods in the development of the resettlement site, well reflected in Nubian reactions to their new home, as well as in the long term repercussions of relocation.

To Sudanese Nubians, Khashm el Girba, their new home, was an alien landscape both geographically and climatically. As opposed to the dry climate of Wadi Halfa, Khashm el Girba was located in a tropical region with violent rains and storms – this alone “had devastating psychological effects on the displaced persons” (Deng 2007:50-51). Hand in hand with the change in climate came a forced change in livelihoods. While the Nubian community, prior to resettlement, had depended on subsistence farming and remittances from a large migrant work force as result of the desert environment, upon arrival to New Halfa they were expected to make a living through irrigated agriculture. This miscalculation on the part of planners resulted in the long term failure of the resettlement scheme. As observed by anthropologist Gunnar Sørbø during fieldwork conducted between 1970-1977:

Whereas date-production at Wadi Halfa tended to bring rather stable cash incomes, with a minimum of effort and supported by subsistence agriculture, an increasing number of people who were active labour contributors within traditional agriculture have come to depend entirely on others for their subsistence. This is particularly true for older men and widows. It is also true for tenant families which, lacking a viable occupation in other sectors, are unable to secure a sufficient and steady income from tenancy cultivation. Such families will grow increasingly dependent on others for financial help or credit or may be forced to leave for work elsewhere. (Sørbø 1985:89).
Sørbø also observed a steady out migration of Nubians from New Halfa and the breaking
down of social bonds between Nubian communities (Sørbø 1985:90). Thus, it is safe to say
that the government of Sudan failed to successfully resettle the dam affected population. It is
not surprising then to consider that decades later, some of these displaced Nubians joined
forces with SPLA at the beginning of the Sudanese Civil War to fight against Khartoum (de
Villiers 2001).

What went wrong?

Initial Reactions to Project and Planning:

We pray to God and complain,
that we do not care for the waters of Atbara,
nor the life of the desert.
If we declare our protest publicly,
handcuffs will be our reward.
If we remain silent, then Halfa will be lost.
We have nothing to do but be patient.
- Salih Musa, Nubian Poet (Sørbø 1985:139)

The announcement of the Aswan High Dam project on Egyptian and Sudanese radio
stations on November 10th, 1959 shocked the Nubian community. Years of political deadlock
and funding complications had led them to believe that no agreement between Cairo and
Khartoum would be reached. According to one Sudanese official living in Wadi Halfa, “many
[Nubians] were so shocked that they could not believe their ears and ran into the streets in the
hope of finding someone who could tell them something different... Individuals were seen to
be walking alone in the streets, talking aloud to themselves looking left and right, gazing in
astonishment...” (Dafalla 1975:89-90). In a few years their homeland would be swallowed by
the very river which had given them life since ancient times, a loss recognized by the
Sudanese government.

On December 6, a month after the project’s announcement, Sudanese President Abboud paid a visit to Wadi Halfa to ease the anxiety and grief that Nubians were experiencing and to let them know that Khartoum would do everything in its power to provide adequate compensation for their loss. During a tearful address to the people of Wadi Halfa, President Abboud stated:

I am aware of your great difficulties and the gravity of your situation. I tell you sincerely that my mind is fully occupied in finding a solution to your imperative problem. I declare that I undertake to provide you with good livelihood and fair and equitable compensation for all your property which will be lost, and that every one of you can be assured of the preservation of his rights... As for the selection of your new home... I promise to accept your choice of place, wherever you want to go, in any part of the Sudan, and that none of you will be forced to go anywhere against his will. (Dafalla 1975:92)

President Abboud followed up his address by signing a twelve point petition drawn up by a local committee of Nubians, which, among other things, promised that “The inhabitants should be resettled in the most suitable site from the economic, social and health point of view... [and that] the people should be resettled in a manner which would preserve the identity and unity of their community.” For Sudanese Nubians the President’s trip temporarily lifted the burden of resettlement as the government was fully committed to their future wellbeing (Dafalla 1975:92). However, it soon became clear that their opinions would not be heard, as Khartoum prioritized technical, quantitative research over qualitative analysis of livelihoods, and envisioned Nubian resettlement as an opportunity to create a large scale, modernist agricultural scheme.

Central to resettlement planning was the gathering of statistical data to determine the number of houses to be built and adequate compensation for economic losses incurred in the
move. Information was gathered on “...population, dwelling houses, furniture, household equipment and baggage in Halfa town; livestock in the town; furniture and livestock in the area (a sample), and income and expenditure and diet” (Dafalla 1975:98). Hassan Dafalla, a government employee stationed in Wadi Halfa, described the process as tedious; however, once completed he claimed that “the facts conveyed in its [the census’] tables melted away all the clouds of ignorance and for the first time we had a clear view of the situation” (1975:98). Aside from the complications of quantifying compensation for the loss of one’s homeland, the census, like the case of Jonglei, masked Nubian livelihoods behind a veil of statistics.

Adhering to the president’s promise, a vote was conducted to allow the Nubian people to choose their preferred resettlement location. Following two votes – the first was nullified due to voter fraud – the final tally listed North Gezira, Kadaru area and Wadi el Khawi as the top three choices for resettlement. Khashm el Girba, the location of their eventual resettlement received significantly fewer votes, a meager 349 of a total 4620 ballots cast (Dafalla 1975:118-119). Unfortunately for the soon to be resettled Nubians, the vote was merely a formality, as their new home had been selected by Khartoum well ahead of time.

It so happened that the relocation of Nubians coincided with the Government of Sudan’s plans to build a dam on the Atbara River, in the Khashm el Girba region. Sudanese officials believed that by resettling “experienced farmers” to Khashm el Girba they could both provide a living area for the displaced, as well as establish a new profitable agricultural scheme (Sørbø 1985:58). Considering that Nubians traditionally practiced subsistence

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16 This figure was taken from the first ballot, as the breakdown of the second vote is unavailable to me; however, as voter fraud was only contributed more votes to the Kadaru area, this statistic is representative of Nubian feelings towards Khashm el Girba.
farming and didn’t possess the necessary skills to undertake large irrigated agriculture, it is clear that the government’s decision was not well thought out. Furthermore, though never explicitly stated by the Sudanese government, the decision on Khashm el Girba can also be viewed as an effort to extend state control to a relatively autonomous community. As a region, Nubia had for centuries remained an isolated part of Sudan. Located in an “inaccessible” desert, it has been described as a “country of its own,” and had remained largely unaffected by political events in Sudan (Dafalla 1975:45). While the government of Sudan offered Nubians six potential sites for resettlement, Khashm el Girba was also selected due to the fact that “all the villages could be joined up by road system [sic] and the area could have a railway link with the main Kassala-Khartoum line” (Dafalla 1975:129). This news was not well received by the people of Wadi Halfa.

On October 22, delegates from the Sudanese government arrived in Wadi Halfa to officially announce Khashm el Girba as their future home. Their visit created a venue for Nubians to vent their frustrations with the Sudanese government. Initially, only a small demonstration was mobilized, comprising two hundred men. Police were quick to silence their opposition and arrested seventy people. Upon hearing the news, President Abboud instructed the police to release the detained Nubians, and instructed officers to allow Nubians to voice their anger against the project, as long as it remained peaceful. Rumors soon began to circulate, which soon took “took the form that President Abboud had instructed the police not to use force, even if the inhabitants killed them to the last man.” By the early afternoon, a group of 3,000 men had assembled in Degheim village. Armed with sticks and stones, they began to block traffic and cut telephone wires. By 4 pm they began to move towards the Nile Hotel where Sudanese officials were residing. They began to voice criticisms of President
Abboud’s promises, and were soon met by a group of women who chanted “‘Fadiru wala hagumunno Khashm el Griba la’ (‘We prefer to die than go to Khashm el Girba’).” Violence soon broke out between the demonstrators and police forces, who used tear gas to disperse the crowd. Several hours later the scuffle ended, leaving three police officers injured (Dafalla 1975:129-132). At long last Nubian concerns with their resettlement were voiced on the national level, yet these demonstrations fell upon deaf ears, and popular resistance against the dam began to falter.

In a last ditch effort to reinvigorate Nubian protest against resettlement, rumors began to circulate about Khashm el Girba. According to Hassan Dafalla,

> Besides conjuring up a savage picture of the Hadandawa and Zebeidia tribes, they said that the water of the river Atbara was polluted with virulent organisms and was as yellow as horses’ urine, and that the rains there were torrential; and they spoke of thunderbolts that would make the atomic bomb of Hiroshima appear mild... they [also] said that in Khashm el Girba there was a strange disease that would impregnate men, and there were apes that would rape women. (1975:137).

The rumors went on to say that Khartoum was well aware of the aforementioned problems with Khashm el Girba, yet was prepared to force Nubians onto the trains at gunpoint. The government was able to counter these rumors by announcing that resettlement would not be compulsory, and that people could make their own living arrangements once Wadi Halfa was swallowed by the Nile (Dafalla 1975:137-138). Nevertheless, while the government did not force affected Nubians onto trains at gunpoint, the resettlement process was traumatic and poorly executed.

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Resettlement:

When Egypt and Sudan signed the Nile Waters Agreement, it was decided that by July
1963 the relocation of affected populations was to be complete; to delay the move any longer would leave local populations susceptible to floods and the rising waters of Lake Nasser, which began to fill in 1964. The Government of Sudan was not able to meet this deadline; in fact, they weren’t able to relocate all the Nubians until November 23, 1965, though the evacuation began in January 1964 (Sørbo 1985:58). Fortunately, it was not until September 1st, 1965 that the Nile began to flood Wadi Halfa, at which point few people were left in the town (Dafalla 1975:253). This delay can be attributed to complications with construction companies and natural disasters which further postponed the resettlement process.

Unfortunately for the displaced Nubians, this delay was but the tip in the iceberg of problems they would encounter in their journey to and arrival in New Halfa.

At first, the transfer of Nubians to Khashm el Girba ran smoothly – trains were moving people and their belongings in a timely manner – yet environmental conditions soon inhibited the resettlement process. Storms and floods brought the trains to a halt and some resettlers found themselves trapped in passenger cars for days on end – in one instance an elderly passenger passed away during these delays. At the resettlement site these storms also levied a psychological toll on relocated Nubians, “who had an ingrained fear of rain and thunder.” In one instance a “...woman was so frightened that she locked her two children in a cupboard” (Dafalla 1975:251-252). Immediately it became clear to resettled Nubians that the environmental conditions of Khashm el Girba were entirely different than the dry climate of Nubia – the first of many psychological shocks they would experience.

Soon after resettlement, it became clear that the Government of Sudan was insensitive to the psychological cost of resettlement. For example, on the day after the first batch of resettlers arrived to New Halfa, they were “invited” to start working their new farms.
Khartoum worried that Sudan would incur a national loss if resettled Nubians missed the year’s annual rotation. Thus, on top of facing the challenges of moving into a new home, the Nubians were expected to adapt to new agricultural practice as well. In South Sudan where hydrological development and agricultural expansion will go hand in hand, this flawed practice may be repeated.

*What can be learned?*

The case of the Aswan High Dam exemplifies the need for development actors to move beyond their “universal science” of development planning and prioritize constant communication with displaced populations, for without their input resettlement initiatives can produce disastrous effects. Furthermore, the resettlement of Nubians is particularly salient in the case of South Sudan where the development community has overlooked local livelihoods.

In conjunction with the construction of the Aswan High Dam, the Government of Sudan used the displacement of affected Nubians as an opportunity to increase national agricultural output. Khashm el Girba, the resettlement site, was selected due to its proximity to a new dam project which would provide the necessary irrigation for large scale farming; however, the Government of Sudan’s modernist agricultural desires failed to account for interconnectedness of humans and the environment. While the Government of Sudan anticipated Nubian resettlers to be “experienced farmers,” they did not account for the fact that Nubian expertise was specific to northern Sudan’s ecology. Date and subsistence farming were their specialty, not the large-scale irrigated agriculture required at Khashm el Girba.

Due to these misunderstandings of local traditions, the resettlement initiative failed both to
increase Sudanese crop output and provide adequate compensation for displaced Nubians. In South Sudan, where agricultural development is a national priority, the necessity of planners to consider the livelihoods of affected populations and the environmental conditions of their resettlement sites cannot be stressed enough.

*The World Commission on Dams: A Way Forward?*

The problematic histories of large scale hydro-projects like the Jonglei Canal and Aswan Dam and their accompanying resettlement initiatives have come under international scrutiny over the past few decades. During the 1990s, outcry against the large-dams reached such a fever pitch that the World Bank, the biggest financial and political supporter of large dams, agreed to fund, alongside the International Union for Conservation of Nature (IUCN), an independent commission – what came to be known as the World Commission on Dams – to research and produce new guidelines for the construction of dams. The 2000 publication of the World Commission on Dams (WCD) report – which to this day “remains, the most global, holistic, systematic, comprehensive, participatory, and scientifically valid assessment of large dam building to date” (Goodland 2010:385) – produced seven necessary criteria to minimize the harm of dam construction and maximize, where possible, the benefits of resettlement for displaced populations. The seven points are as follows: 1) Gaining Public Acceptance; 2) Comprehensive Options Assessment; 3) Sustaining Rivers and Livelihoods; 4) Global Priority; 5) Recognizing Entitlements and Sharing Benefits; 6) Ensuring Compliance; and 7) Sharing Rivers for Peace, Development and Security. Furthermore, it established five foundational values for successful projects: equity, efficiency, participatory decision-making, sustainability and accountability (WCD 2000). Central to the WCD’s
guidelines was an increase in cooperation between affected peoples and project planners; however, for the most part these guidelines have yet to translate into improved practice.

Upon publication the WCD was subject to both praise and criticism from different circles invested in future development projects. Critics, such as Navawala (2001), argued that the report operated from a biased anti-dam ideology and failed to recognize the positive aspects of dam building and the necessity of such projects in countries like India where drinking water, food and electricity will become increasingly strained as the country’s population continues its exponential growth. In direct response to Navawala, Sengupta (2001) argued that such criticisms were unfounded as the WCD devoted an entire section to the benefits of dams and recognized them as a necessary development option in certain cases. Thayer Scudder, a strong proponent of the WCD and one of its committee members, further supports the importance of the WCDs guidelines claiming that, “Though it does not attempt to recommend a new globally applicable framework for designing a new development paradigm, it provides a first step in that direction” (2001:340). Some development organizations also hailed the WCD report. For example, the WHO responded to its publication stating that:

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\text{The report of the World Commission on Dams is a landmark report for all development stakeholders... the report deserves a strong endorsement by the relevant UN Specialized agencies... it has laid the foundations for a new approach to development in the coming decade. If the report meets with the broad support from all development stakeholders, then the scene is set for truly sustainable development in the 21st century (Scudder 2001: 340).}
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However, while some development actors supported the WCD, the historically most important party in dam building, the World Bank, withdrew its support from the final report and soundly rejected its findings. Thus, while the WCD sought to improve the detrimental
outcomes of dam construction, since its publication its guidelines have yet to be implemented on a large scale.

While the WCD, for about seven years, managed to slow the construction of large dams, since 2008 dam financing has soared to unprecedented levels. In 2010, the World Bank was in the process of financing about US$2 billion worth of dam projects. One the largest of these projects, Nam Theum 2 Dam in Laos has come under recent criticism from environmentalists after it illegally began operations, violating its obligations to affected populations. According to Ikuko Matsumoto, the Lao Director of International Rivers, “The Nam Theun 2 Power Company is operating the dam without complying with its Concession Agreement. The project is violating people’s human rights by preventing access to clean water and by destroying critical food sources without providing compensation” (International Rivers 2010). Other scholars, however, argue that it is too early in Nam Theun’s development to draw conclusions about its outcome. For example, Thayer Scudder, who has been intimately involved in research on the dam, claims that despite Matsumoto’s critique it is too the project may result in a medium-term success (personal communication, April 2nd, 2012). Only the coming years will tell whether Nam Theun 2 will emerge as a success; however, the early developments in NT2 construction suggest that even after funding intensive research on dam construction, the World Bank has been unable to move beyond its “high modernist” worldview.

The case of Turkey’s Ilisu Dam also illustrates the resistance of State governments to incorporate the findings of the WCD into project plans. While international donors such as the World Bank withdrew financial support from the dam when the indisputable and grave human and environmental costs of its construction became apparent, the Turkish State has
gone on to pursue the Ilisu Dam’s construction on its own. In 2009, the Turkish Environment Minister Veysel Ergolu stated that, “These [hydro-electric] power plants will be built. No one can stop it. This is the decision of the state and the government” (Brinlee 2012). By 2010, the Turkish government secured the necessary funds to go ahead with the project and its completion date is set for 2014. As the development community are not the only actors in agricultural development in South Sudan, it is necessary to indicate that as of this writing the GoSS also holds similar “high modernist” views of the country’s future – characterizing agricultural expansion as “agro-industrial” - and may follow in the footsteps of the Turkish government.

Despite the fact that eventual hydro-development in South Sudan will occur on a smaller scale than the cases of Jonglei, Aswan, Nam Theun 2, and Ilisu the framework put forth by the WCD remains applicable; however, as documented throughout this study, development actors in South Sudan remain spellbound by their “universal” and “scientific” model of social planning. With South Sudan expected to become a subject of increased scholarly inquiry, follow up studies on the planning process and outcomes of development may uncover whether the disconnect between the development community and local populations remains a part of development practice several years down the road; however, I am inclined to believe that until a paradigm shift occurs in the development worldview – not present in South Sudan as of this writing – development actors will continue to produce harmful and unintended project outcomes.
Chapter 6: Conclusion

In this thesis, I explored questions of development, water and agriculture in South Sudan, which, thus far, has received scant attention in contemporary scholarship. In the process, I showed that while two hundred years have passed since the beginnings of “high modernist” planning in South Sudan the “scientific” worldview of social planners, old and new, has remained largely the same. I did so by examining two centuries of discourse on South Sudan’s and its role in shaping development projects in the region. I looked specifically at development actors’ inattention to South Sudan’s environmental and human realities, which complicate its treatment as a simplistic universally-understandable “object” of development and examined the role of water in upcoming agricultural development. Lastly, I looked towards South Sudan’s future and asked what can be learned from a comparative analysis of past hydro-projects in Sudan’s past and showed that while new guidelines exist to avoid previous failings, development actors have yet translate such literature into improved practice. In Chapter 1, I presented my argument, introduced my research methodology, and situated my study in the theories of Ferguson (1990), Scott (1998) and Scudder (2005). In Chapter 2, I described the geography, people and ecology of South Sudan and its history from pre-colonial times to the present. In Chapter 3, I established a historical point of reference for contemporary development in South Sudan and examined Anglo-Egyptian discourse, which characterized the region’s hydro-geography as “dangerous” and “wasteful” and resulted in in detrimental “high modernist” planning processes. In Chapter 4, I documented the continuation of colonial era planning through a qualitative analysis of development reports and new articles on South Sudan and showed that in the formative stages of development NGOs, IGOs and the GoSS have yet to critically engage with the
hydrological nature of agricultural expansion. Lastly, in Chapter 5, I asked what the
development community in South Sudan can learn from past ecologically disruptive projects,
specifically referencing the Jonglei Canal and Aswan High Dam. I also showed that there has
been active resistance on the part of some development organizations, such as the World
Bank, to incorporate the WCD framework which seeks to put an end to the detrimental
legacies of large hydro-projects.

I began this thesis interrogating the international silence on the question of the Nile in
South Sudan’s future. I argued that this absence was symptomatic of a much larger historical
process of international actors neglecting South Sudan’s environmental and human realities
as a result of “high modernist” worldviews. As shown in Chapter 2, the environmental
conditions produced by the Nile River have influenced the lives and modes of subsistence of
the Nuer and various other transhumant populations in South Sudan.

Central to this thesis has been an interrogation of the past to inform South Sudan’s
present. The concept of plus ça change, plus c’est la même chose, runs throughout this study.
While the foreign powers involved in South Sudan have changed over time, the lens through
which they view the region and its ecology and subsequent responses have not; similarly,
while wars and canal building have challenged South Sudanese transhumance, modes of
subsistence have remained largely unchanged and are still inextricably tied to the
environmental conditions of the region. During the colonial period South Sudan came to be
characterized as “dangerous” and “wasteful” by foreign travelers, government officials,
scientists and engineers. The link between South Sudanese livelihoods, water and territory
was invisible to these extra-Sudanese actors, who viewed the region’s swamps as an
impediment to upstream travel and upstream agricultural development. At present South
Sudan is subject to similar scrutiny by the international community. Contemporary discourse has envisioned the country as poor and food insecure and have prescribed agricultural growth as an antidote to these ills; however, the South Sudanese are not accustomed to sedentary agriculture, and the region’s environment, as it is currently “organized,” further inhibits large scale agriculture.

It is clear that over the past two hundred years the local livelihoods have remained invisible to foreign administrations and institutions and the Sudanese and South Sudanese States. Why has this been the case? The work of Scott (1998) is essential to understanding this stark divide between international conceptions of nature and local realities. Though Scudder (2005) invokes Scott in regards to the construction of large dams, the following application is useful in contextualizing Anglo-Egyptian and contemporary ignorance of South Sudan’s ecology: “heads of state or other politicians and central planners... have a vision of the future involving mastery of nature that is ‘unscientifically optimistic about the possibilities for the comprehensive planning of human settlement and production,’ whereas in reality, the lives of affected rural communities are interwoven with nature and especially the annual regime of free-flowing rivers” (Scudder 2005: 49). Furthermore, as Scott goes on to say in Seeing Like a State, the State and development engineers tend to view nature and people through a technical and empirical lens which cannot account for local environmental and human diversity. Thus, until international actors begin to incorporate local knowledge into project formation and implementation, one can anticipate that South Sudan’s ecology will remain invisible and that the region will continue to be mischaracterized by international actors as seen over the past two hundred years – plus ça change, plus c'est la même chose.

While the physical articulation of agricultural development in South Sudan remains
unknown – plans for irrigation schemes and dams have yet to be proposed – an examination of recurrent themes in past ecologically disruptive projects may help us understand what is in store for the region. In Chapter 5, I reviewed the cases of the Jonglei Canal and Aswan High Dam, both of which led to a significant decrease in living conditions for the Sudanese – the same holds true for the vast majority of hydrological development projects across the globe. Over the past few decades anthropological scholarship has done well to assess the effects of dam construction and resettlement initiatives. These critiques have provoked institutional funding of research on the relative failures and successes of such projects such as the World Commission on Dams report. For the most part scholarship has focused on the construction of large dams and the accompanying resettlement initiatives; nevertheless, these policy recommendations are applicable in the case of South Sudan where projects associated with agricultural growth will be on a much smaller scale. New policy guidelines have highlighted the necessity of incorporating local knowledge and involving affected populations in dam project formation and resettlement initiatives. If these suggestions are actively implemented there is hope that previous failures may be avoided; however, as shown in the case of South Sudan there is little hope that these guidelines will be adhered to.

In order for large scale agricultural development to occur in South Sudan there is a necessity for not only small dams, but also irrigation schemes and large farming operations. Each of these seemingly benign projects hold grave implications for South Sudan. As an example, by cordonning off land for farming operations, the transhumant practices of the South Sudanese will certainly be disrupted. Yet these effects of transforming South Sudan into an “agro-industrial powerhouse” have gone largely unnoticed due to the problematic worldview of development actors and the South Sudanese state. If the international
community and GoSS are not talking about issues of resettlement and changes in livelihoods in the planning stages of agricultural transformation, it is unlikely that they will be able to effectively respond to the unintended consequences of their involvement in the region – a bleak sign for the South Sudanese.

In 2001 Scudder stated that the WCD provided a first step towards “designing a new development paradigm” (2001:340). While the unprecedented research and scholarly collaboration that went into the WCD indicates that designing new theoretical paradigms for global development are possible, the World Bank’s rejection of the WCDs findings and the persistence of the “high modernist” worldview of development actors in the emergent discourse on South Sudan indicate that the development community and GoSS are not ready for such change – plus ça change, plus c’est la même chose.
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