CREATING UNIVERSITY-LED PRIVATE AND PUBLIC PARTNERSHIPS TO ASSIST NATION-BUILDING EFFORTS IN SOUTH SUDAN

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Presented to the

Faculty of

San Diego State University

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Master of Science

in

Homeland Security

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by

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DEDICATION

I dedicate my thesis to my parents, Pamela and Steven, for your undying love and support. Thank you for shaping me into the woman I am today. I love you.
ABSTRACT OF THE THESIS

Creating University-Led Private and Public Partnerships to Assist
Nation-Building Efforts in South Sudan

by

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Master of Science in Homeland Security
San Diego State University, 2012

July 9, 2011, marked a day of celebration and turning point for the newly independent state of South Sudan. South Sudan entered the international stage as the world’s newest country. Needless to say, South Sudan is in need of international aid to help itself solve serious infrastructure problems and avoid the pitfalls of the past. Historically, in many similar places of extreme stress, such as Haiti, it has been difficult to determine exactly how international aid has been used and who has actually benefitted from the assistance. In many ways, what is generally meant as international compassion and a desire to help actually translates into a situation where a few well-connected people gain from the international aid, but the poor remain poor. Ultimately, only a small number of national and international people and groups benefit.

Finding effective ways for the United States to assist this new nation is extremely challenging but necessary to see real change. Typical aid delivered through USAID has historically been done in countless ways via companies paid to manage the assistance, such as Booz Allen Hamilton, through a host of non-governmental organizations, or through various governmental groups, such as the US military and the AFRICOM effort. Another means is via the United Nations and its agencies such as UNICEF, World Food Programme, Food and Agriculture Organization, UN OCHA (Office for the Coordination of Humanitarian Affairs), and many others.

These types of solutions are attempting to assist by bringing in outside assistance to help, but this seems to work much better for short-term disaster relief rather than the long-term nation-building efforts. Using Haiti as an example is actually very discouraging. Outside aid has built a Haitian society almost solely dependent on the aid. Outside aid worth billions of dollars was meant to solve problems, such as extreme poverty and poor health. Yet, these problems still persist. Trying to help new countries like South Sudan forge another path and not become another Haiti is difficult.

Another solution, besides never-ending direct aid, is via universities. Creating dedicated partnerships between specific US schools and schools within South Sudan is one way of offering assistance to this nation. The partnerships would teach the target nation how to help itself. This solution also has challenges, including how such university aid and partnerships can be built and effectively managed. Infrastructure problems such as transportation, water, energy, health, education, and security can be solved through contributions that universities can make on behalf of the United States and the Department of State. Also, linking the Diaspora from South Sudan to their home country could form a web of collaboration and compassion that could immediately and dramatically assist the United
States in assisting South Sudan in its nation-building efforts. This thesis explores much of the basic background and needs of South Sudan and suggests how special university partnerships combined with Cloud computing and the Diaspora could make an unprecedented contribution toward the success of South Sudan.

The intent of the examination of South Sudan is also to form a template, or pattern, for how USAID and other US agencies, including the Department of Defense, might be able to better achieve US goals globally while considering the severe budget constraints faced by the United States and the world.
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CHAPTER 1

OVERVIEW OF SOUTH SUDAN

South Sudan has a population of approximately 8.26 million, though it is obviously difficult to have an exact count of the people in South Sudan.\(^1\) According to the CIA World Factbook, 44.4 percent of the population range from 0 to 14 years, 53 percent of the population range from 15 to 64 years, and only 2.6 percent of the population are 65 years and older.\(^2\) Obtaining an education is not feasible or a priority for a large percentage of the population. According to the World Bank’s “Poverty Profile for the Southern States of Sudan,” 24 percent of the population is literate, including 31 percent of the males, but only 9 percent of the females.\(^3\) Women head 28.6 percent of households. Seventy-five percent of household heads have no education and 1 percent of household heads have completed postsecondary education. Fifty-seven percent of household heads with no education are below the poverty line and 11 percent of household heads with a postsecondary education are below the poverty line.\(^4\)

South Sudan consists of 10 states: Central Equatoria, Eastern Equatoria, Jonglei, Lakes, Northern Bahrel Ghazel, Unity, Upper Nile, Warrap, Western Bahr el Ghazal, and Western Equatoria\(^5\) (Figure 1).\(^6\) The country covers almost 700,000 sq km (644,329 by some estimates, such as the CIA Factbook, though the boundaries are vague and disputed in some areas), which makes South Sudan the 44th largest country in the world. This is slightly

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4. Ibid.
5. “World Factbook: Sudan.”
smaller than Afghanistan and about the same size as California and Oregon combined. Compared to the original size of Sudan, which was Africa’s largest nation, South Sudan represents over one fourth of Sudan’s total surface, which is over 2.5 million sq km. Both South Sudan and Sudan are landlocked and are in some ways the “left-over land” away from the coastal regions, somewhat like the phrase “the back forty” in US terminology for land that is isolated and away from normal transportation and commerce.

**HISTORY OF SOUTH SUDAN**

According to Country Watch, a small amount of history is available for South Sudan. The history of the Nilotic people before the 19th century is vague. Although, a handful of Nilotic tribes in the region, such as the Nuer, Dinka, and Shilluk tribes, have some degree of an anthropological record and have passed down stories and history from generation to generation. This history includes when such people first entered Sudan in the 10th century.
A larger population of people from the Bahr el Ghazal region began migrating to southern Sudan beginning in the 15th century through the 19th century. The non-Nilotic Azande people are responsible for establishing the region’s most significant state in the 16th century. In the 18th century, the Azande began expanding and relationships with neighboring tribes became strained. The Avungara people entered the region in the 18th century as well. They “eventually dominated the Azande and prevailed in power and strength until the arrival of the British at the close of the 19th century.”7 The Azande continued to struggle for power with the French and Belgians, and then Egypt in the late 19th century. “Although Egypt claimed all of present Sudan during most of the 19th century, it was unable to establish effective control of southern Sudan, which remained an area of fragmented ethnic groups subject to frequent attacks by slave raiders.”8

According to Encyclopedia Britannica, “Christianity first came to Sudan around the 6th century, and for centuries thereafter Christian churches flourished in the ancient kingdom of Nubia.”9 By the end of the 15th century, Islam established dominance in Egypt and large Arab populations began migrating into Sudan. Consequently, Christianity virtually disappeared in Nubia and was slowly replaced by Islam. “Christianity in Sudan today is a product of European missionary efforts that began in the second half of the 19th century. Most of those efforts were concentrated in the Nuba Mountains rather than among the Muslims of the north.”10 While the north continued to be heavily influenced by Islam and Arab populations, Islam did not penetrate into the south as easily due to the tough geographic borders.

Today, a majority of the population in Sudan is Muslim. A very small percentage of the population is animist and Christians account for another small portion of the population.11 In South Sudan, these numbers are nearly reversed. Approximately 60 percent of the

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8 Ibid.
10 Ibid.
11 Ibid.
population in South Sudan is Christian and the remaining 40 percent are Muslim and animist. Animists outnumber the former. The religious identity of Sudan and South Sudan is a reflection of the history and the involvement and influence the Western world has had on Central Africa. Religious differences have produced some of the most horrific human rights violations that finally helped lead to the formation of this new country. Simply forming a new country out of the complex societies and tribes is fraught with difficulties. There is obviously no guarantee that the attacks on the people of South Sudan will cease, especially since South Sudan is blessed with major resources where Sudan itself is far less rich in resources, especially oil.

**SOUTH SUDAN’S INDUSTRY AND INFRASTRUCTURE**

South Sudan’s industry and infrastructure in this landlocked country are severely underdeveloped and poverty is widespread, following several decades of civil war with the north. Subsistence agriculture provides a living for the vast majority of the population. Only 4 percent of arable land is cultivated. The entire middle of the country (the Sudd) is a vast swamp formed by the White Nile and is one of the world’s largest wetlands. It is not usable for agriculture or transport because of the mass of vegetation floating on the water. It is certainly useful for other things such as migratory routes for birds and eco-tourism, but it is not easily converted to agricultural uses in the traditional sense. Tables 1 and 2 display the comparison of the land suitable for agriculture.

**MILITARY**

The army is deemed necessary because of the neighboring countries, in particular Sudan, with whom the people of South Sudan have been in conflict for decades. The military

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13 “World Factbook: Sudan.”


Table 1. Land Areas in Sudan and South Sudan Suitable for Agriculture in Square Kilometers

<table>
<thead>
<tr>
<th>Percent contribution to aggregate agriculture value</th>
<th>South Sudan</th>
<th>Sudan</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10% but high suitability</td>
<td>4,381</td>
<td>1,438</td>
</tr>
<tr>
<td>10%-50%</td>
<td>2,279</td>
<td>4,793</td>
</tr>
<tr>
<td>&gt; 50%</td>
<td>54</td>
<td>265</td>
</tr>
<tr>
<td>Total area of high agricultural suitability</td>
<td>6,714</td>
<td>6,496</td>
</tr>
</tbody>
</table>


Table 2. Distribution of Agricultural Value between Sudan and South Sudan in Percentages

<table>
<thead>
<tr>
<th>Percent contribution to aggregate agriculture value</th>
<th>South Sudan</th>
<th>Sudan</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10% but high suitability</td>
<td>65</td>
<td>22</td>
</tr>
<tr>
<td>10%-50%</td>
<td>34</td>
<td>74</td>
</tr>
<tr>
<td>&gt;50%</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total area of high agricultural suitability</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>


has been one of the clearest pathways to economic advancement in the country. One of the likely and very fruitful ways of helping to educate people and lead the country is partnering with the military. Specific information outlining AFRICOM’s work in South Sudan has not yet been posted to its website. Information regarding AFRICOM’s work in Africa as a whole is widely available as the AFRICOM personnel attend many conferences and interact in the African community in many international settings. According to AFRICOM’s website, “AFRICOM is one of nine Unified Combatant Commands of the US Department of Defense (DOD).”

The Secretary of Defense leads AFRICOM in US military relations with 54 African countries. “The intent is that AFRICOM better enables the Department of Defense

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to work with other elements of the US government and others to achieve a more stable environment where political and economic growth can take place.”\textsuperscript{17}

AFRICOM’s most important military tasks are to:

(1) deter or defeat al-Qaida and other violent extremist organizations operating in Africa and deny them safe haven; (2) strengthen the defense capabilities of key African states and regional partners through enduring and tailored engagement by helping them build defense institutions and military forces that are capable, sustainable, subordinate to civilian authority, respectful of the rule of law, and committed to the well-being of their fellow citizens; (3) ensuring US access to and through Africa in support of global requirements; and (4) be prepared, as part of a whole of government approach, to help protect Africans from mass atrocities and when directed provide military support to humanitarian assistance efforts.\textsuperscript{18}

**TRADE**

Items that are legally traded between Sudan and South Sudan will continue to be threatened if tensions between the two countries continue to escalate. Trade between the two countries will come to a halt if war is declared.

**Referendum Impacts on Market Flows and Livelihoods**

South Sudan depends largely on the import of goods, services, and capital from the north. USAID outlined the impacts the January 2011 referendum had on market flows and livelihoods in a bulletin published in May 2011. The information listed below is the most up-to-date information available. According to USAID, “In 2010, over 80,000 MT of key food staples; sorghum, wheat flour, millet, wheat grain, and groundnuts were supplied to southern Sudan by the north.”\textsuperscript{19} If Sudan and South Sudan continue to maintain a stable relationship, “these flows have the potential to increase to at least 150,000 MT annually.”\textsuperscript{20} A 40 percent reduction in food and nonfood supplies occurred after the results of the January 2011 referendum and increasing apprehension over the July split between the two regions.

\textsuperscript{17} Ibid.

\textsuperscript{18} Ibid.


\textsuperscript{20} Ibid.
Prices of goods supplied from the north increased, especially fuel and staple cereals. For example, “the price of fuel increased by 60–70 percent in Wau Town (West Bahr al Ghazal State) over the course of the month of May.”21 In the main supply areas in the north, prices were depressed due to the loss of the southern Sudan market. “Other negative impacts observed since the January referendum include reduced access to grazing lands for migratory pastoralists from northern Sudan, reduced seasonal labor migration from the south to the north, and reduced fish and livestock flows from the south to the north.”22 It is still too early to tell if these impacts have become worse since the separation.

Commodities supplied from Sudan to South Sudan include staple food crops, noncereal food items, medicine, fuel, and other nonfood items, to name a few (Table 3). Rivers, railways, airplanes, and roads are the four modes of transportation. Sixteen percent of food and 4 percent of fuel are transported by river. The road is the most important means of transport, with “96 percent of fuel and 83 percent of food commodities traveling by road.”23 Trucks are only able to travel on the roads from December/January up to May each year. During the rainy season (June-November), roads between the north and south are inaccessible.

While commodities also flow from the south to the north, trade volumes are minimal compared to north-to-south flows. An estimated 10,000 heads of cattle, dry and fresh fish, gum Arabic, honey, and timber are exported from the south to the north.

**Oil**

According to USAID, “Refined fuel, the most essential nonfood commodity, is also imported from the north. In 2010, an estimated 631,000 MT of fuel were imported from the north and only 7,200 MT from Uganda.”24 On a daily basis, 70 percent of the 500,000 barrels of crude oil produced in Sudan originates in South Sudan.25 “The crude oil is sent to

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21 Ibid.
22 Ibid.
23 Ibid.
24 Ibid.
25 Ibid.
Table 3. Commodities Flowing from Northern Sudan to Southern Sudan

<table>
<thead>
<tr>
<th>Staple foods</th>
<th>Other foods</th>
<th>Drinks</th>
<th>Fuel/building materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sorghum</td>
<td>Groundnuts</td>
<td>Soft drinks</td>
<td>Fuel</td>
</tr>
<tr>
<td>Sorghum relief</td>
<td>Sesame (little)</td>
<td>Mineral water</td>
<td>Cement</td>
</tr>
<tr>
<td>Millet</td>
<td>Edible oil</td>
<td></td>
<td>Metal bars</td>
</tr>
<tr>
<td>Wheat</td>
<td>Salt</td>
<td></td>
<td>Gravel</td>
</tr>
<tr>
<td>Wheat flour</td>
<td>Canned Food</td>
<td></td>
<td>White sand</td>
</tr>
<tr>
<td></td>
<td>Fruits</td>
<td></td>
<td>Bricks</td>
</tr>
<tr>
<td></td>
<td>Vegetables</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Onion</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lentils/rice</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dry Okra</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dry Tomatoes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cowpea (lubia)</td>
<td></td>
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</tr>
</tbody>
</table>

the north for export and processing for domestic use and then sent again to the south.”

Although the pattern of fuel flows is likely to change after the July separation, this could take a number of years due to fact that all of the refinery plants and the export pipeline/port are located in the north.

International Engagement Conference

According to the White House website, in December 2011, the “United States hosted an International Engagement Conference for South Sudan to welcome the new country to the international community and provide a forum for the Republic of South Sudan to highlight its development priorities and opportunities for engagement with public and private sector partners.”

South Sudan’s trade relationship with the United States was the main focus.

A critical element of the US Office of the Trade Representative is expanding trade between the United States and the Republic of South Sudan.

The Administration has launched a review of South Sudan’s eligibility for trade benefits under the Generalized System of Preferences. If it is determined that South Sudan meets the eligibility requirements, up to 4,800 different products

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26 Ibid.
27 Ibid.
would become eligible for duty-free treatment by the United States. The United States is also starting the process of considering South Sudan’s eligibility under the African Growth and Opportunity Act (AGOA). AGOA gives duty-free treatment to a broader variety of products than the Gross State Product (GSP), including apparel, footwear, and certain agricultural products. By enabling greater access to the US market and providing tangible incentives for African countries to open their economies and build free markets, GSP and AGOA together play an important role in sustainable economic development throughout Africa.29

**Illegal Trade**

It is difficult to say with certainty what is illegally traded across South Sudan’s borders. Open-source publication of illegal trading trends may help eliminate such activity or may force individuals to become increasingly deceptive in their methods and potentially increase black market prices. The World Bank’s “trade” link for South Sudan and Sudan is currently unavailable. Therefore, it is difficult to determine if illegal trade across South Sudan borders is tracked or reported by a reputable source such as the World Bank. Various news articles illustrate the illegal trade of items such as ivory, logging, currency, oil, arms, and drugs. Ivory is the most common illegally traded item in Sudan and South Sudan. Many news articles report the illegal trade in ivory in and across South Sudan.

**INFRASTRUCTURE DEVELOPMENT**

It appears that infrastructure development is an obvious and excellent place for the world’s newest country to start. It is safe to assume that infrastructure is a major key to economic growth. It is difficult to prioritize which part of South Sudan’s infrastructure needs to be addressed first since the country is in such significant disarray. The task of prioritizing the list is daunting and depressing. According to the Policy Research Working Paper, “South Sudan’s Infrastructure: A Continental Perspective” published by the World Bank in September 2011, “It is simply not realistic to expect that South Sudan will catch up with neighboring countries in a period of 10 years or more.”30 South Sudan would need to spend upwards of $1.4 billion per year for ten years in order to catch up. Currently, South Sudan

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29 Ibid.

30 “South Sudan’s Infrastructure.”
“spends approximately $450 million per year on infrastructure, equivalent to about 7.5 percent of the Gross Domestic Product (GDP). A further $36 million a year is wasted due to inefficiencies.”\textsuperscript{31} The water and sanitation sector, followed by transportation and power, represent the largest funding gaps.

**TRANSPORTATION: ROADS**

The only way South Sudan can access the sea is through its neighbors to the north and south. This includes connectivity through undersea fiber-optic cables for telecommunications and linkage to the outside world. South Sudan’s economic and societal growth is at a standstill due to the lack of transportation within and to the neighboring countries in Africa. “The absence of a regional transport backbone connecting South Sudan with its neighbors hinders growth and regional integration.”\textsuperscript{32} As mentioned above, roads in South Sudan are either nonexistent or in extremely poor condition, partly due to the rainy season. In order to provide rural accessibility, more roads need to be paved. Of the primary network, only 2 percent of the roads are paved. “The road transport network has inadvertently fragmented the country; quality road links to connect the different parts of South Sudan are missing.”\textsuperscript{33} The only route that links South Sudan to the outside world is from Juba, south to the Ugandan border. According to the World Bank, in order to improve transport conditions, 7,000 km of roads are needed.\textsuperscript{34} “To attain the most basic connectivity for its arable land, South Sudan will need to start by improving 2,500 km of the national and regional network.”\textsuperscript{35}

**WATER RESOURCE MANAGEMENT**

Almost all water is moved by hand from rivers, wells, and surface waters since running water is scarce. “Sixty seven percent of the urban population has access to improved

\textsuperscript{31} Ibid.
\textsuperscript{32} Ibid.
\textsuperscript{33} Ibid.
\textsuperscript{34} Ibid.
\textsuperscript{35} Ibid.
sources of drinking water compared to 53 percent of the rural population. Thirty-eight percent of the population has to walk more than 30 minutes one way to collect drinking water.\textsuperscript{36} \textit{Dracunculiasis}, or guinea worm disease, is still present but is on the brink of being eradicated. Guinea worm disease still poses a significant threat to individuals who only have access to stagnant water such as wells and boreholes.\textsuperscript{37}

One issue that represents a major challenge is the lack of priority and attention afforded to water resource management. The once-existing meteorological and hydrological data collection network was destroyed during the conflict and is currently almost nonexistent. Regional meteorological modeling and web services to show rainfall and drought are available because the satellite imagery is global, but almost none of these data are known to be of use in South Sudan. These services could be a major contribution that AFRICOM or other groups could provide to assist from the outside.

The Nile offers South Sudan its biggest water management challenge, as well as its biggest opportunity. About a third of the Nile River flows through South Sudan. The Nile Basin Initiative is “an intergovernmental organization dedicated to equitable and sustainable management and development of the shared water resources of the Nile Basin.”\textsuperscript{38} South Sudan is geographically located at the heart of the complexities associated with the Nile Basin Initiative. According to the Nile Basin Initiative, thus far, Egypt and Sudan have primary control over the Nile River. “However, South Sudan’s independence raises the question of new use for the Nile waters and their allocation between Sudan and South Sudan.”\textsuperscript{39} It is clear that, as a country, South Sudan will explore and initiate, sooner rather than later, the honing of the river’s hydropower and enormous irrigation potential.

Increasing access to drinking water has taken precedence in the water resource management planning process for South Sudan, with irrigation in close second. “Since 2004, South Sudan has made progress in creating a very basic institutional framework and initiating

\textsuperscript{36} Ibid.

\textsuperscript{37} Ibid.


\textsuperscript{39} Ibid.
essential sector strategic assessments and feasibility studies to rehabilitate dilapidated assets and manage water resources.\footnote{“South Sudan’s Infrastructure.”} The Ministry of Water Resources and Irrigation was established in 2008 with defined mandates and responsibilities. First, $38 million worth of contracts were awarded for feasibility and scientific studies for construction of three medium-sized dams, which will be dedicated to improving access to clean water and electricity, and the Maridi Dam, which will be limited to public water supply and irrigation uses.\footnote{Ibid.}

Water resource management is a major challenge in South Sudan. The main source of water for a majority of the population is surface water from boreholes and wells and piped water is unavailable. Therefore, none of the water available to a large majority of the population is safe. This is one of South Sudan’s policy challenges. Sanitation facilities are inaccessible and unavailable for approximately 75 percent of the population.\footnote{Ibid.}

Twice as many people in South Sudan relative to other East African low-countries, seven times as many people rely on open defecation, indicating that the sanitation situation in South Sudan is rather grave. Almost no one in South Sudan has access to flush toilets compared to 5 percent of the population in Sudan and other African low-income countries.\footnote{Ibid.}

**ENERGY**

Little to no progress has occurred in the electricity sector. There is some hope and progress being made in the development of microhydropower plants, but there is nothing to report as of yet. Potential for solar energy and biofuels in addition to the immense oil and gas resources all pose major opportunities for South Sudan but require significant outside help to initiate and develop. Physical assets, such as the massive Sudd swamp, represent extraordinary possibilities for contained biofuel production such as freshwater algae or other plant products where water, sun, and long days are all attractive assets for naturally growing energy. Developing these assets in a responsible and competitive way is an extraordinary
challenge that universities in other regions could help with, but the initial resources and management have to be there to make this possible.

The development of South Sudan’s power infrastructure was severely curtailed by years of civil war. “The power network consists of a few disjointed generation plants in urban centers. Despite the rich hydropower potential, power is generated through expensive diesel generation. Access to power is very low and unequal.” Only 1 percent of the population has access to power, but not throughout a 24-hour period. In contrast to East Africa, 10 percent of the population has access to electricity. In Sudan, around 28 percent of the rural population has access to power compared to virtually no one in South Sudan’s rural areas. There are three key benefits to exploiting the hydropower South Sudan has to offer.

First, the cost-recovery situation in South Sudan is more attainable. Second, developing South Sudan’s rich hydropower potential elevates South Sudan’s role as a key player in regional power trade, expanding cross-border trade (trade expansion) to leverage lower-cost energy resources that are available in the region as a whole with the addition of cross-border transmission capacity to facilitate the flow of power from the production to consumption locations. Third, by increasing the share of hydropower in the regional generation portfolio, the region could save several million tons of carbon emissions a year. Under trade expansion, the weight of hydropower for all parts of Sudan will increase to over 90 percent, making the generation of power more environmentally sound.

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44 Ibid.
45 Ibid.
46 Ibid.
47 Ibid.
48 Ibid.
CHAPTER 2
CLASSIC WAYS OF DELIVERING AID

THE RESOURCE CURSE

According to the World Bank Research Observer, the resource curse is “the tendency of countries with high levels of natural resources to exhibit worse economic and political outcomes.”49 In the 1980s, the idea was born that natural resources might be more of a curse than a blessing. Numerous studies, including one by Jeffrey Sachs and Andrew Warner, have shown a link between natural resource abundance and poor economic growth.50

This disconnect between natural resource wealth and economic growth can be seen by looking at an example from petroleum-producing countries. From 1965 to 1998, in the Organization of the Petroleum Exporting Countries (OPEC) countries, gross national product per capita growth decreased on average by 1.3 percent, while, in the rest of the developing world, per capita growth was on average 2.2 percent.51

The literature suggests financial flows from foreign aid can provoke effects that are similar to the resource curse.

NIGERIA: A CASE STUDY

Nigeria is an excellent example of the resource curse as one of the largest producers of oil and petroleum in the world. In 1957, the discovery of oil in Nigeria’s Niger Delta region “triggered a chain of events that led to the political and economic marginalization of the inhabitants.”52 Indeed, it has been argued that oil has been more of a curse than a blessing to the people who have been at the receiving end of horrendous government

oppression and brutality, often resulting in fatalities. According to *Nigeria’s Niger Delta Crisis: Root Causes of Peacelessness* published by the European University Center for Peace Studies, “Despite over 40 years of oil production and hundreds of billions of dollars of oil revenue, the local people remained in abject poverty without even the most basic amenities such as water and electricity.” The inhabitants of the Niger creek were anything but rich and prosperous. The region, according to Mukagbo, Cable Network News (CNN) anchorman for Inside Africa, “is a region where time seems to have stood still and where people live the most meager of existences, leaving them bitter and angry from not having benefited from the black gold that makes Nigeria Africa’s largest producer.” After further research, the World Bank concluded that poverty is one of the key causes of conflict in oil-producing countries. The World Bank asserts that “the key root cause of conflict is the failure of economic development such that many of the world’s poorest countries are locked in a tragic vicious cycle where poverty causes conflict and conflict causes poverty.”

The Niger Delta region has been described as a sorry tale of woes with about 70 percent of the people living below the poverty line. Health care delivery is poor, with the region’s 20 percent mortality rate amongst the highest in the world. The industrial development level is very low; unemployment is high; and the transportation system is inadequate, with movement and access to settlements being hampered by the lack of road networks and difficult conditions, especially in rural areas. Electricity supply is absent in many rural education, waste management, and sanitation facilities are inadequate.

At both the state and local levels, the Niger Delta region was riddled with bad governance and corruption on the parts of government officials.

It has been argued that if government officials in the region had judiciously utilized their monthly allocations to better the lots of the ordinary people through the creation of jobs and develop the infrastructure of the region, the situation would have been significantly better. Rather, the jumbo monthly allocations have

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53 Ibid.


largely been spent on frivolous things that have no corresponding bearings on the life of the people or have gone into the personal accounts of the corrupt leaders.\textsuperscript{57}

According to the European University Center for Peace Studies, the head of the Nigerian anticorruption agency, the Economic and Financial Crime Commission (EFCC), Nuhu Ribadu, estimated that, in 2003, approximately 70 percent of oil revenues, or more than $14 billion, was stolen or wasted.\textsuperscript{58} Insurrection became rampant when the Nigerian people saw the Nigerian federal government profiting on crude oil sales while none of was allotted to benefit or assist ordinary people in any way.\textsuperscript{59}

The economic impact of the crisis is severe and grave. In order to meet its obligation, the government of Nigeria relies solely on the earnings derived from the sales of oil. “The crisis is said to have cost the country an annual loss of 4.4 billion dollars.”\textsuperscript{60}

South Sudan and Nigeria (before the crisis) are indeed similar. Both countries can be classified as oil-rich countries with severe levels of poverty, little to no infrastructure development including a lack of roads, an insufficient energy structure, poor water resource management, and poor access to clean water and sanitation facilities. These are necessary building blocks to the growth and sustainability of our world’s newest country. South Sudan is at serious risk of following in Nigeria’s footsteps if immediate steps are not taken to lure South Sudan down a different path. The United States and Western corporations have almost completely failed in their attempt to help Nigeria. This raises questions about the future of South Sudan and what needs to be done differently. Will South Sudan simply walk in the path of Nigeria and enable a few people to become rich and a nation to move toward revolution?

\textbf{WHAT CAN WE LEARN ABOUT THE RESOURCE CURSE FROM FOREIGN AID?}

Positive effects rather than negative effects are seen if the profits from natural resources are handled by a competent government. The important question therefore is:

\textsuperscript{57} Ibid., 17.
\textsuperscript{58} Ibid., 6.
\textsuperscript{59} Ibid.
\textsuperscript{60} Ibid.
What can be done in countries without effective governments? The two alternatives, (1) not allowing the governments to handle the resources and (2) forcing the governments to make particular commitments, have not been successful. According to the article, “What Can We Learn about the ‘Resource Curse’ from Foreign Aid” written by Kevin Morrison of the World Bank, this “could have been predicted from research on another important nontax revenue source for developing countries: foreign aid.” The resource curse literature and foreign aid literature reveal many similarities. According to the World Bank, an important change in approach is needed for poorly governed resource-rich countries.

An influential body of research has argued that countries rich in natural resources do worse economically and politically than they otherwise should; therefore, there has been far more emphasis in the international community on how countries need to avoid the curse that apparently comes along with natural resources. Is there anything resource-rich countries can do to counteract these apparently negative effects, particularly as commodity prices will likely remain at historically high levels?

The literature regarding foreign aid sheds light on this issue and provides insight into the link between natural resource wealth and poor political and economic outcomes. These outcomes derive from how the revenue from these resources is used. “As such, in many cases there should be no particular difference between a country getting its revenue from aid or oil. Not surprisingly, the literature analyzing the effects of aid describes very similar effects as those in the resource curse literature.”

The similarities between resource revenue and foreign aid have important policy consequences. Dutch Disease (Younger 1992; Adam and Bevan 2003; Rajan and Subramanian 2005), aid volatility (Bulir and Lane 2002; Arellano and others 2009), and political deterioration (Knack 2001; van de Walle 2001; Brautigam and Knack 2004) are three causal mechanisms that produce poor economic and political outcomes for resource-rich countries will be explored.

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62 Ibid.
63 Ibid., 2.
64 Ibid.
65 Ibid., 7.
One of the most well known effects of the discovery of natural resources is the appreciation of the real exchange rate, leading to what is often referred to as “Dutch Disease.” The appreciation of the exchange rate is caused by the rise in the value of natural resource exports and it generally makes other (non-natural resource) commodity exports less competitive. With imports now cheaper, it also becomes more difficult for domestic producers to compete in the local market. In addition, as local labor and assets are used by the natural resource sector, their prices increase, making them more expensive for producers in their sectors. The overall result is a privileging of the natural resource and non-tradable sectors, crowding out the traditional exports in an economy (manufacturing, agriculture or both).

The country is driven to poverty because only one sector is primarily benefiting from the natural resource export.

In addition to Dutch Disease, natural-resource exporters also face a problem of volatility in revenue based on changing world prices and demand, sometimes dramatically changing the revenues to the country. As Humphreys, Sachs, and Stiglitz (2007b) have discussed, this volatility has several sources, including resource extraction rates that vary over time, government’s back-loaded contracts with producing companies, world price fluctuations, and cyclical lending that tends to accentuate booms and busts. The volatility creates obvious problems for fiscal policy: because there are diminishing marginal benefits to public spending, the social gain from spending more in some years does not make up for the social cost of spending less in others.

Wise management of complex financial resources and contracts is not something that people or governments naturally have, but they could learn. Asking if such wisdom and expertise exists in the newly formed country of South Sudan is an obvious query to predict the future of the country. If they are not there, asking how such wisdom and expertise can be imparted to a large number of people is an appropriate follow-up question: How does anyone in a new country know how to manage major resources, global financial complexities, international business and contractual law, and economic planning? The role of universities in assisting with providing this understanding to government and businesses seems compelling rather than simply letting countries walk in the same path as countries like Nigeria.

The final causal mechanism (or set of mechanisms) linking natural resources to a “curse” can be broadly called “political deterioration.” Natural resource assets

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66 Ibid., 3.
67 Ibid., 4.
have been linked to greater corruption and weaker accountability (Leite and Weidmann, 2002) and less democratization (Ross 2001). Accountability arguments tend to center on the ability of governments with these revenues to avoid taxing their citizens, which is often thought to have played a key role in the development of Western representative institutions (Tilly 1990; Ross 2004). Many explanations for the link between natural resources and less democratization have similarly focused on revenue (Anderson 1995; Karl 1997), as these resources simply give political regimes more money with which to pursue their various strategies for staying in power. As Jensen and Wantchekon (2004, p. 821) state: “The key mechanism linking authoritarian rule and resource dependence, both in democratic transition and democratic consolidation, is an incumbent’s discretion over the distribution of natural resource rents.”

As with the first two “resource curse” mechanisms, however, the fact that these political mechanisms revolve around the use of revenue indicates that the effects are likely due to the institutions in place when these revenues arise.68

In summary:

the various negative effects that have been attributed to natural resources are caused by the revenue that these resources generate and how governments use that revenue. For this reason, it is not surprising that the most recent and important theoretical work on the “resource curse” is highlighting the fact that these resources have very different effects depending on the institutional environment in place in a given country (Hodler, 2006, Mehlum, Moene, and Torvik, 2006; Robinson, Torvik, and Verdier, 2006; Bhattacharyya and Hodler, 2009). In beneficial institutional environments, natural resources have no negative effect and can even have positive economic impacts, while in poor institutional environments these resources have negative effects.69

In new countries, there is a profound need for assisting the government, its agencies and leaders, and its corporations to better understand the complex realities of natural resources and what seems to happen in other countries with similar resources and a weak rule of law and accountability to the people of the country.

Revenue from resources and foreign aid is simply money coming into the country and into the hands of a few leaders in government or businesses, but the money is not moving to the people of the country. Although it is difficult to tell, sometimes money that is sent to help a country only ends up enriching the lives of leaders and families. It is perhaps simply a reflection of human nature and human greed. How this can be overcome, especially using

68 Ibid., 4-5.
69 Ibid., 5-6.
the power of global communications, is likely not a lost cause, but simply requires doing new things to produce new results rather than expecting new results with the same actions that have produced discouraging results in countries such as Nigeria, Haiti, and many others that have received massive amounts of income from natural resources or foreign aid.

**Potential Difference in Approach for South Sudan**

With such a dismal potential beginning, there likely is far more hope for South Sudan if other solutions can be found that go beyond the normal course of delivering foreign aid or developing the rich natural resources of the country. The enormity of what South Sudan needs is impossible for just the United States to tackle, especially if it is done by the US federal government that can provide resources but cannot be the entire solution. Even efforts by the US military command AFRICOM (http://www.africom.mil), which was set up specifically to solve problems in Africa, are likely only a part of the answer. AFRICOM can do wonderful things in planning, transportation, and short-term relief, but building a nation and sustaining it are not really appropriate long-term responsibilities to expect the military to provide, especially because AFROCOM is expected to do more and more with fewer and fewer resources.

Two of the most attractive ways the US federal government can assist South Sudan would be utilizing two groups of people who have a commitment to assist in a different way than traditional USAID contractors or the military. These two groups of people are the Diaspora of people originally from the region that is now South Sudan and universities interested in and experienced at providing international assistance, training, and education. These alternative approaches, which will be discussed later, may provide a potential solution.

USAID has a specific University Partnership program that could form a major basis on which South Sudan could be built up through training about the wise use of resources like oil and gas, water infrastructure, public health, transportation, education, business, and security. How and why universities, Diaspora, and global connectivity might combine to assist the United States and other countries in building the nation of South Sudan will be dealt with in detail in a later chapter, but looking at Haiti and the response to the earthquake and cholera outbreaks is an example of what could also work for South Sudan.
CHAPTER 3

Haiti

A violent earthquake shook the island of Haiti on January 12, 2010. “As with most other natural disasters, the international community pledged to support rescue and relief efforts. But, the Haiti earthquake also marked the beginning of a new culture in disaster relief.” Global collaboration occurred via the Internet in ways that relief aid had not ever experienced. With the global revolution in communications technologies, including the Internet and ubiquitous cell phone coverage, new solutions were championed by many groups, media organizations, NGOs, and the public at large interested in and able to help. New applications, such as interactive online maps built by CrisisMappers, short message service (SMS) texting, Ushahidi, and OpenStreetMap, to name a few, were used to guide search and rescue teams, locate missing persons, and deliver food and water to people in need. Aid via general aviation and NGOs collaborated with the Haitian Diaspora in the United States and many other countries. Media reports and live reporting from the disaster area by figures such as Anderson Cooper significantly contributed to the disaster response efforts.

Haiti constituted a learning opportunity; however, it was not a perfect model. Working partnerships had to be forged quickly between traditional actors, including governments and international institutions, as well as more spontaneous technological coalitions. Haiti’s shaky communications infrastructure, crippled by the earthquake, often faltered under the new demands, yet massive efforts to build up the communications network and to use additional networks such as the Inmarsat Broadband Global Area Network (BGAN; Figure 2)71

70 Anne Nelson, Ivan Sigal, and Dean Zambrano, Media, Information Systems, and Communities: Lessons from Haiti. (Port-Au-Prince: Communicating with Disaster Affected Communities, 2010), 4.

technologies enabled massive global connectivity, enabling the world to see and be motivated to respond.

According to Media, Information Systems, and Communities: Lessons from Haiti, “The global awareness and effectiveness of the operations yielded a wealth of data and experience that will be of vital importance for future relief efforts.” With the right applications, coordination, and program management, information technology and digital media can significantly improve humanitarian responses, as evidenced in Haiti.

Another organization InSTEDD (http://www.instedd.org) with Dr. Eric Rasmussen in Haiti and Luke Beckman in the United States were involved to help move the SMS short

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73 Ibid., 6.
code information to the Diaspora and then onto groups such as the Tufts University volunteers, helping link requests for aid with globally constructed maps of the disaster and with organizations able to assist in accomplishing a myriad of tasks. Numerous people were saved by the use of the SMS short codes, transport of the Creole messages via Skype to Florida for translation by the Haitian Diaspora, transport to Tufts for linking to maps and decisions, and retransport to Haiti to aid groups including with retranslation back into Creole by the Haitian Diaspora. This double translation, mapping, decision support, and response were reduced to about 15 minutes during the days after the earthquake when people were still missing. Because family members could SMS a message to missing family members or friends, people under the rubble learned of the short code and were able to be saved by it.

The mapping done by the open-source community was a particularly compelling part of this endeavor. A summary presented at the Where 2.0 Conference “Haiti: CrisisMapping the Earthquake” by Jeffrey Johnson, John Crowley, and Schuyler Erle is a particularly compelling summary of what occurred. This same approach of the world open-source community working to assist nations such as South Sudan can be mobilized and championed, but not by a government such as the US government. Rather, open-source organizations and communities, including those at universities, linked to the South Sudan Diaspora are likely far more promising for bringing this Cloud-based assistance to the people of South Sudan.

As a possible template for what could be done to assist South Sudan, the lessons learned from Haiti provide many remarkable solutions that enabled disaster aid to greatly impact a region even with no effective or even visible government. International leadership by groups like the United Nations (UN) was also lacking because of the severe loss of UN personnel in the earthquake, yet international aid led by groups such as the US military, World Bank, and hundreds of NGOs and faith-based groups profoundly impacted Haiti in positive ways.

The lessons from Haiti are useful in assessing the needs and rebuilding process in South Sudan. South Sudan is similar to Haiti in several respects and also very different than

Haiti. As a nation, South Sudan is more than 23 times larger than Haiti, which is slightly smaller than Maryland. Only a small portion of Haiti was impacted by the earthquake, while South Sudan is an area perhaps 200 times larger than the region of the Haiti disaster. Haiti has about 9.7 million people, whereas South Sudan has approximately 8.26 million, though the exact number is difficult to know. Haiti also has ports and ease of transportation via ocean shipping, whereas South Sudan is landlocked. Ocean ports also translate into fiber-optic cables that are easy to establish and therefore significant telecommunications infrastructure is easily developed. Haiti also is in relative proximity to the United States, whereas South Sudan is far from almost any significantly developed country able to assist it. Because Haiti is close to the United States, many hundreds of thousands or more (many are undocumented) of Haitians live in the United States, whereas the number of people from South Sudan living in the United States is dramatically smaller.

One of the biggest lessons from Haiti was the impact of not having a functioning or even visible government or ruling body at the beginning of the disaster. Haiti did not have a government that was visible as many of the government workers were impacted themselves and the government functionally disappeared from having any significant impact on the governance of the country, even outside of the earthquake-damaged zone. Also, among those who perished were 102 UN personnel, constituting the highest loss of life from a single event in UN history. This meant the UN mission, MINUSTAH, was decimated and not able to lead the disaster response effort. Many other groups provided leadership in the absence of traditional UN or Haitian government leadership. In some ways, this opportunity for innovation and helping a nation outside the “normal” context of established government and established UN collaboration likely led to many of the major successes of the Haitian relief effort. A central authoritative power was absent and people and organizations were able to move without bureaucracy or institutional hurdles that exist in all governments and certainly in the UN. Therefore, humanitarian aid agencies were able to function and assist the Haitian population without permission from any type of authority. In theory, this allowed the aid

75 “World Factbook: Sudan.”
76 Ibid.
agencies to act more quickly and dramatically reduced the possibility for corruption. Ironically, the lack of government was actually beneficial to Haiti as a country during and after the disaster.

Another major similarity between Haiti and South Sudan is the extreme lack of education and widespread poverty. However, the two countries have major differences as well. Haiti has ports, fishing, trading, and strong linkages to Diaspora, supplying resources back to the country. Haiti is also on the smuggling routes from South America to the United States for products such as cocaine, so the illegal economy is significant and impacts broad parts of the country, though this is not well-documented in the open-source literature. Haiti has about 200 millionaires, which means that there is a small number of very rich people and large number of people are very poor. Haiti also has a strong animistic belief system, including Voodoo influence and other belief systems that hold the people in bondage to ideas and spiritual forces that impact much of their lives. Gangs and warlords, especially related to narcotics smuggling and other “illegal” activities, are part of the society, though largely beneath a veneer of poverty and apparent hopelessness.

There is much more hope in nation building efforts in South Sudan than Haiti. Some of the same tools that could build the nation of South Sudan could also rebuild Haiti, so, interestingly, South Sudan might provide answers for Haiti more than Haiti can provide answers for South Sudan. The global collaboration for the earthquake response provided answers, but those were provided by the global response community not the government of Haiti or groups like the UN simply because they were not leading the effort after the disaster. As the government of Haiti came back into power, many of the opportunities for outside help disappeared. Lessons learned from the disaster response are the best source of insight for South Sudan, not the current government of Haiti.
CHAPTER 4

BUILDING SOUTH SUDAN’S INFRASTRUCTURE

USAID, the World Bank, and the UN each have a separate transition strategy and have identified priorities for South Sudan. The International Monetary Fund and the Clinton Global Initiative offer assistance and do not have a detailed transition strategy, but the three above-mentioned organizations can assist in a profound way. Each is outlined below.

USAID

The South Sudan Transition Strategy 2011-2013 was released in June 2011. The USAID Transition Strategy is based on the premise that:

- increasing stability in the immediate post-CPA period will depend on a combination of strengthening core governance institutions and processes and making them more inclusive, responding to the expectations of the population for essential services and improved livelihoods, as well as containing the conflicts that are likely to erupt and addressing the grievances behind them. An increasingly stable South Sudan post-CPA is USAID’s overall goal.77

“The transition strategy is fully aligned with the four pillars of the three-year development plan that the GOSS [Government of South Sudan] is currently working on: (1) Governance; (2) Economic Development; (3) Social and Human Development; and (4) Conflict Prevention and Security.”78

WORLD BANK

On December 14, 2011, Robert Zoellick, President of World Bank Group, announced three priorities included in World Bank’s South Sudan Development Plan. The actual development plan has not been released.79 First, “ensure macroeconomic stability and fiscal

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78 Ibid.
sustainability.” Zoellick continues, “You need to manage the jump in both oil revenues and aid in a sustainable way. You need to own your country’s development.” Zoellick stresses the importance of building, operating, and understanding South Sudan’s ability to make large commitments. He also stresses the importance of keeping a detailed budget that covers all expenses and is transparent.

Second, take care of your people and invest in them by providing basic necessities such as health and education. He states, “It’s fine to rely on others now. But start to integrate these services within your design. Over time, you’ll need to fund and operate the services. You are independent, so look beyond dependence.”

Lastly, begin investing in nonoil growth in South Sudan, such “jobs, skills, safety to fulfill the land’s and people’s potential.” New businesses and jobs can be created by private companies and investors, yet the costs of doing business in South Sudan are too high.

This year, the World Bank’s “Doing Business” report ranked Juba 159th out of 183 economies on ease of doing business, explaining that important laws and institutions are still absent. To increase private sector engagement, South Sudan will need to improve its transportation infrastructure and strengthen its regulatory framework, as well as other economic measures to lower costs of doing business.

**UNITED NATIONS**

On July 8, 2011, the United Nations Mission to the Republic of South Sudan (UNMISS) was created for an initial period of one year, with the possibility of future support. The mandate of the United Nations Mission to Sudan (UNMIS) ended on the same date.

UNMISS will consist of up to 7,000 military personnel, up to 900 civilian police personnel, and an appropriate civilian component. The mandate lists three priorities. The first is “support for peace consolidation and thereby fostering longer-term state building and economic development.” UNMISS’ second priority is “support the Government of the

80 Ibid.
81 Ibid.
82 Ibid.
84 Ibid.
Republic of South Sudan in exercising its responsibilities for conflict prevention, mitigation, and resolution and protect civilians.”

UNMISS’ third priority is support the Government of the Republic of South Sudan in developing its capacity to provide security, to establish rule of law, and to strengthen the security and justice sectors.

The three main themes of each organization’s strategy include strengthening core governance institutions, conflict prevention and mitigation, and building South Sudan’s infrastructure (water resource management, transportation, education, and public health). Attention is also given to managing oil dependence, security and growth of businesses and capitalizing on South Sudan’s agricultural markets. The most practical way the United States can assist the people of South Sudan is by linking university partnerships and the Diaspora via global connectivity. A cohesive network of compassionate volunteers and staff are able to address each of the priorities outlined in the transition strategies of USAID, World Bank, and the UN. A strong deviation from Nigeria’s path will prevent the plague of the resource curse in South Sudan.

INTERNATIONAL MONETARY FUND

Of the three organization listed in this chapter, International Monetary Fund (IMF) is the only organization that has not published clear information recognizing South Sudan’s split from Sudan. The new country has yet to become a member of the IMF, but it is in the advanced stages of this process. In a press release posted on IMF’s website on December 16, 2011, the IMF states it has been “providing technical support and training on tax and customs administration, public financial management, oil revenue and foreign reserves management, central banking and financial supervision, as well as macroeconomic statistics.”

A three year program dedicated to technical assistance is being developed by authorities and donors.

85 Ibid.
CLINTON GLOBAL INITIATIVE

Established in 2005 by President Bill Clinton, the Clinton Global Initiative (CGI) “convenes global leaders to create and implement innovative solutions to the world’s most pressing challenges.”⁸⁷ According to its website, the mission of CGI is to “inspire, connect, and empower a community of global leaders to forge solutions to the world’s most pressing challenges.”⁸⁸ CGI’s members include organizations from the private sector, public sector, and civil society. CGI helps its members by “fostering partnerships, providing strategic advice, and driving resources toward effective ideas to maximize their efforts to alleviate poverty, create a cleaner environment, and increase access to health care and education.”⁸⁹

Major philanthropists, NGOs, hundreds of leading CEOs, heads of state, Nobel Prize laureates, heads of foundations, and members of the media attend the meetings. “To date, CGI members have made more than 2,100 commitments, which are already improving the lives of nearly 400 million people in more than 180 countries. When fully funded and implemented, these commitments will be valued at $69.2 billion.”⁹⁰

Valentino Achak Deng, founder of the Valentino Achak Deng Foundation, and Dave Eggers, author of Valentino’s autobiography What Is the What, gave a keynote presentation at the 2011 CGI Annual Meeting held in September in New York. They discussed the “challenges of building an educational infrastructure in South Sudan, the importance of community-driven, grassroots projects, and the hope they have for the future of the brand new country.”⁹¹

The proceeds of his book, What Is the What, would be sent back to Marial Bai, Deng’s hometown in Sudan. Deng was overwhelmed by the difficulties his people were facing and decided to use the funds “to provide better educational opportunities for the

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⁸⁸ Ibid.

⁸⁹ Ibid.

⁹⁰ Ibid.

Sudanese both in Southern Sudan and in the United States." The Valentino Achak Deng Foundation was created at the same time his book was published in 2006. The foundation’s mission statement is: “Believing that the strength, determination, and diversity of the Sudanese people will enable them to build a peaceful and prosperous future.” Deng’s Foundation “aims to empower war-affected Sudanese populations” by (1) “helping members of the southern Sudanese Diaspora in the United States to enhance their educational, social, and economic opportunities,” (2) rebuilding southern Sudanese communities, and (3) improving US policy toward Sudan by educating the public and policy makers on the situation in Sudan.

Unlike the other organizations in this chapter, CGI is a specific example of the efforts undertaken outside of government. At this level the lack of bureaucratic red tape has enabled CGI to partner with the Sudanese Diaspora sooner. The goals and strategies of USAID, World Bank, and the UN seem promising, but it is too early to tell if their respective plans will be successful.

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92 Ibid.
93 “Clinton Global Initiative.”
94 Ibid.
CHAPTER 5
UNIVERSITY PARTNERSHIPS, DIASPORA, AND GLOBAL CONNECTIVITY

As explained in Chapter 2, delivering aid to an oil-rich country with a nonexistent or weak government has generally not been promising in many other countries that have had access to major monetary resources, such as Nigeria. Instead, linking university partnerships, Diaspora, and global connectivity to build South Sudan is a much more practical and cost-saving alternative.

UNIVERSITY PARTNERSHIPS

According to the USAID website, USAID has long recognized the US higher education community as a “national asset and a valued partner in international development.” As part of an agency-wide emphasis on building partnerships in all sectors, USAID builds partnerships and alliances with US and host-country institutions to enhance USAID’s ability to foster quality education for diverse learners of all ages. Many partnerships combine the expertise and resources of USAID and several public and private sector entities, such as higher education institutions, and NGOs.

A brief summary of the education system in South Sudan and the main university in South Sudan will be described in a later chapter. It would be the most ideal to include all five public universities in South Sudan within the partnership, although detailed information is available for only one university, the University of Juba, at this time. It is necessary to decide which US and non-US universities are willing to partner together with USAID’s University Partnership program. There are a myriad of different possibilities to create the best possible group of universities. One possible solution is to use the California State

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96 Ibid.
University (CSU) system as the foundation. The CSU consists of 23 campuses, approximately 412,000 students, and 43,000 faculty and staff.\textsuperscript{97} The CSU system could collectively provide a group of specialized faculty willing to contribute to the building process in South Sudan. Since the CSU faculty is already trained, a large amount of time and money would be saved. Certain CSUs could be hand selected to create a virtual South Sudan university supported by the CSU. The Imperial Valley Campus of San Diego State University (SDSU) and SDSU’s main campus are likely to contribute. The Imperial Valley Campus of SDSU is, in fact, better suited and can easily relate to the current situation in South Sudan. Its economy is based on agriculture and, like South Sudan, its hot desert climate is characterized by daily temperature extremes. Unlike the Imperial Valley, South Sudan experiences a significant more amount of rainfall annually. Due to similar terrain and climate, the Imperial Valley Campus is a more likely partner than SDSU’s main campus.

Alternatively, university partnerships can be formed using schools across the nation, such as Texas A&M, which has strong ties to the intelligence community; Louisiana State University, whose geographic location is near swamps like the Sudd in Sudan; and Cal Poly San Luis Obispo and Cal Poly Pomona, which are well-recognized agricultural schools.

University partnerships would collaborate to create joint certificate and degree programs that would be offered to students via the Internet and Cloud computing, which will be discussed in more detail later. Joint certificates in Construction Estimating, Construction Practices, Nutrition for Optimal Health, Regulatory Affairs, Water Management and Landscape Sustainability, and Web and Mobile Applications Development, to name a few. A host of additional certificates could also be developed with curriculum that directly suits the building process in South Sudan. Joint undergraduate and graduate degrees would also be offered. Possible degrees bachelor’s and master’s degrees in Business Administration, Civil Engineering, Construction Engineering, City Planning, Counseling and School Psychology, Environmental Sciences, Homeland Security, Nursing, Foods and Nutrition, Public Health, Social Work, and Women’s Studies would be created. Although, at this time, Sudan is currently unable to receive grants, another possible way to enrich the university

partnerships is to bring several Fulbright students and scholars from South Sudan once South Sudan becomes eligible. The Fulbright program is sponsored by the US Department of State and is the “largest US international exchange program offering opportunities for students, scholars, and professionals to undertake international graduate study, advanced research, university teaching, and teaching in elementary and secondary schools worldwide.”

Oak Ridge Associated Universities, “as a consortium of major Ph.D.-granting academic institutions, cultivates collaborative partnerships that enhance the scientific research and education enterprise of our nation.”099 According to its website, “ORAU places great emphasis on building partnerships for innovation.”100

The 101-member university consortium and strategic partnership with Oak Ridge National Laboratory (ORNL) brings together university faculty and students to collaborate on major scientific initiatives that help keep America on the leading edge of science and technology. In addition, they leverage the collective capabilities of the university consortium by partnering with other national laboratories, government agencies, and private industry to strengthen America’s scientific research and education enterprise to enhance global competitiveness, build public trust and confidence in the management of worker health and environmental cleanup initiatives and enhance our nation’s preparedness to respond to emergencies related to terrorist incidents, natural disasters and health threats.101

SDSU was once part of the Oakridge Association of Universities, but it is not longer part of the association because of budget constraints ($5,000 per year to belong). It would be highly beneficial for SDSU to join this association once again in hopes of partnering with institutions that have already expressed an interest in collaborating and assisting abroad. Oak Ridge Associated Universities could take the university partnership idea on as a project. Additional staff would be needed to manage the South Sudan project.

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100 Ibid.

101 Ibid.
**Diaspora**

USAID’s Transition Strategy for South Sudan also mentions that the Sudanese Diaspora are already playing a significant role in South Sudan’s development and have the potential to be a greater force in the future. Connecting universities with the South Sudanese Diaspora through global connectivity is the most practical way USAID can capitalize on this growing force. Many southerners who left during the civil war earned advanced degrees and have gained valuable skills. In implementing its programs, USAID will support special efforts to recruit southern Sudanese from the Diaspora as project staff, within USAID itself, and as technical advisors to the Government of South Sudan (GOSS) and state governments. USAID is also willing to “assist the GOSS [Government of South Sudan] in developing a policy framework on Diaspora—a need that has been identified by members of the Diaspora themselves.”

University partnerships could singlehandedly take on the task of developing a policy framework for the Diaspora.

**Valentino Achak Deng**

As mentioned in an earlier chapter, Valentino Achak Deng is part of the South Sudanese Diaspora and could function as a leader of a Diaspora group for purposes of this project. His presentation at the CGI’s annual meeting regarding the problems with South Sudan’s educational infrastructure and the recent publication of his book offer a foundation for this cause and prove to be a potential match with the university partnership solution.

**Ambassadors Group for Peace**

On January 2, 2012, the Government of South Sudan posted a news article to its website titled “South Sudanese Diaspora vow to end Jonglei’s Conflict.” The group, “ambassadors group for peace,” led by Mr. Dhieu Deng Leek, is comprised of members from all the tribes in Jonglei state “with the vision of creating peace among the tribes in the state and their neighbors across the country.”

Mr. Leek stated that “the people in the Diaspora

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102 World Bank, *South Sudan Transition*, 2.
know that the government is working hard to fix the problems shaking Jonglei state but added that the government alone cannot do all these because it is still young and has many challenges to overcome.”

The minister for Information and Broadcasting commended the group for the initiative and assured them that they have the full support of the government. He also urged them to extend the same initiative across the Republic of South Sudan.

**African Diaspora Program**

The World Bank also created the African Diaspora Program and defines the African Diaspora as:

peoples of African origin living outside the continent, irrespective of their citizenship and nationality and who are willing to contribute to the development of the continent and the building of the African Union. The African Union considers the Diaspora to be the “sixth region” of Africa. The estimated number of African Diaspora by region is: North America, 39.16 million; Latin America, 112.65 million; Caribbean, 13.56 million; and Europe, 3.51 million. The program focuses on Diaspora policy formulation and implementation; finance, the leveraging of remittances for development; and human capital utilization, through Diaspora professional Networks and organizations and Hometown Associations.

**The Southern Sudanese Community of San Diego**

The Southern Sudanese Community Center of San Diego is a nonprofit 501(c)(3) founded in 1995. Its mission is to assist all Sudanese refugees in their resettlement through education, social, economic, and cultural support.

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104 Ibid.

105 Ibid.


The Episcopal Refugee Network

The Episcopal Refugee Network of San Diego is a nonprofit organization that started by helping refugees from South Sudan. According to the Episcopal Refugee Network website:

Sudanese refugees started arriving in numbers in San Diego more than 12 years ago. The families arrived from villages that had been strafed by aircraft machine-gun fire and later burned out by the Janjaweed horsemen. Many of the families arrived with additional children belonging to their sisters and brothers who had been killed in the attacks. Some 40% of the group with whom the Network labors, are single women families, often headed by a grandmother who has rescued the children. Since 2004 The Episcopal Refugee Network has served many additional Sudanese families who were sponsored by their refugee relatives who were already living in San Diego.\textsuperscript{108}

Collaboration with the above-mentioned groups and people to establish a group of South Sudanese Diaspora with advanced degrees who reside in San Diego needs to take place to determine how local Diaspora can begin working with SDSU’s main campus and Imperial Valley Campus. Establishing a relationship with the Southern Sudanese Community of San Diego, the Episcopal Refugee network and SDSU is most likely the best way to begin reaching out to the Diaspora that live locally in San Diego.

GLOBAL CONNECTIVITY

Cloud computing and Inmarsat’s Broadband Global Area Network are the two essential building blocks necessary to connect US universities and the South Sudanese Diaspora in the United States to professionals, government, and students at the University of Juba in South Sudan.

According to the National Institute of Standards and Technology of the US Department of Commerce, Cloud computing is defined as “a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.”\textsuperscript{109} Teachers

\textsuperscript{108} Ibid.

and trainers are able to connect and communicate from opposite sides of the world via tablets, desktops, phones, and laptops. Certificates and degrees will be available online through the distance education program at the University of Juba. Cloud computing will save a tremendous amount of travel funds, and applications such as Skype will be included to provide real-time face-to-face interaction between players.

In addition, Inmarsat, the leading provider of global voice, data, and IP communications solutions, is able to deliver mission-critical communications where terrestrial networks do not go or are ineffective. Inmarsat’s Broadband Global Area Network offers a portfolio of guaranteed, on-demand IP streaming rates and is the service of choice for many people working in areas that have little or no terrestrial connectivity, like South Sudan.

Precision Agriculture, or precision farming, is a farming system that uses “new technology to allow a closer, more site-specific management of the factors affecting crop production.” Global Positioning Systems (GPS) enable farmers to break crops into smaller sections, which enable them to keep more accurate information on those units through the use of Geographic Information System (GIS) computer software.

GPS allows a farmer to accurately return to a certain spot in a field again and again. Special computer-driven equipment can then change the rate at which fertilizer, seed, plant health products and other inputs are used based on the needs of the soil and crop in that smaller unit of the field. Precision agriculture is different to different growers, because the challenges of each different crop and locality are different. That’s why it’s sometimes difficult even for experts to agree on the definition of precision agriculture.

The people of South Sudan would appreciate precision agriculture in light of the unpredictable periods of droughts and floods and the effects on crops and harvests. SDSU’s Visualization Center (http://vizcenter.net) is an excellent candidate to lead this effort.

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112 Ibid.

113 Ibid.
CHAPTER 6

EDUCATION IN SOUTH SUDAN

According to the book *Education in South Sudan* published in 2011, the education system in South Sudan is very similar to that in the United States. “Primary education consists of 8 years (1st-8th), followed by three years of secondary education (9th-11th), and four years at the university level. The primary language at all levels is English.”¹¹⁴ In the scientific and technical fields, there is a severe shortage of English teachers and English-speaking teachers.¹¹⁵ An individual can pursue further education in either a university or a vocational (technical school) after secondary education is completed. Not enough universities or vocational (technical schools) exist in South Sudan. “As in most sub-Saharan countries, too much emphasis is placed on acquiring a university education and not enough on obtaining life-sustaining practical skills in a vocational or technical institution.”¹¹⁶

According to *Education in South Sudan*, “South Sudan needs graduates of technical schools to build and maintain its infrastructure including building roads, houses, water treatment systems, and sewage plants as well as computer networks, telephone systems, and electricity generating plants to power the entire infrastructure.”¹¹⁷ A significant amount of trained manpower is needed to maintain those facilities. “As of late 2011, there are not enough technical institutions to train the needed manpower.”¹¹⁸ This is a wonderful opportunity for the United States to step in and assist South Sudan in their nation-building efforts through university partnerships. Instead of simply handing over aid, the United States could train students at universities how to build the infrastructure of the new nation.

¹¹⁵ Ibid., 1.
¹¹⁶ Ibid.
¹¹⁷ Ibid., 2.
¹¹⁸ Ibid., 2.
As of July 2011, South Sudan has twelve universities, seven are public and five are private. “Officials estimate that about 25,000 students have registered at the five public universities. It remains to be seen how many students do report to campus, now that all of the country’s universities are located in South Sudan, and not Khartoum.” Food and housing are paid for by the government. The Minister for Higher Education, Joseph Ukel, says no funds are allotted in the South Sudanese government’s proposed budget for 2011. The number of faculty is also a problem. “Almost seventy-five percent of the lecturers are from Sudan. They are not likely to move to South Sudan to continue teaching in their former universities, now that South Sudan has seceded from Sudan.” University partnerships would be able to fill this need through distance education. Trained faculty could teach remotely until an adequate amount of teachers are hired to teach at universities in South Sudan.

The physical infrastructures in the original campuses are dilapidated and unsuitable for accommodating the increased number of students. Moreover, there is lack of regulations and institutions that control and assure the quality of higher education in South Sudan. These are the most significant problems that should concern South Sudanese, particularly those tasked with bringing rapid changes to the educational sector in the new republic. The president of South Sudan at the independence celebration at the University of Juba said, “I appeal to you all both academic staff and administrations of our public universities to put your minds together and come up with well studied recommendations and plans for strengthening our institutions, which must become the pillars of nation-building.” Needless to say, the situation of higher education institutions in the new republic is a major challenge.

119 Ibid.
120 Ibid.
UNIVERSITY OF JUBA

The University of Juba (Figure 3) is the first of the emerging new national universities that is geared to take into account regional peculiarities in its operation and philosophy of education. The university’s website does not list where its faculty is educated.

Figure 3. The University of Juba is located in Juba, the capital and largest city in South Sudan.

Objectives

The primary objectives of the university, are to train manpower for the developmental needs of the Southern Sudan and similar regions in the country. It envisages the development of this skilled manpower to seek and to determine rational methods of exploitation of the vast natural resources of the country for development. The objective takes into account the building up of social life within the national goals of economic development, forging national integration, and promoting human and international understanding.123

Policy

The National Council for Higher Education governs the University of Juba and is funded by the Higher Education Grants Committee. The National Admissions Board delineates the student admission policies. The special needs of South Sudan are taken into consideration during the admissions process. The University of Juba seeks to attain the following specific objectives:

1. Assert the nation’s identity through prescribed programs.

2. Study, investigate, and develop the country’s natural resources and train skilled manpower to develop the rural communities in southern states and similar areas in the community.
3. Build the capacity of technicians and other workers in the countryside.
4. Conduct social studies to upgrade the rural communities.
5. Train qualified medical doctors, engineers, economists, administrators, community specialists, and teachers to run development programs.
6. Realize national unity within the context of cultural diversity.\textsuperscript{124}

**CENTER OF DISTANCE EDUCATION**

Ignorance, the percentage of the population in poverty, and the prevalence of disease can be tackled by a society with a strong education system and well-skilled citizens. A university education has become a concern and a priority to all “to the extent that those who missed university education for one reason or another tend to effortlessly find ways and means of catching up with it.”\textsuperscript{125} The Distance Education Center at the University of Juba was created to serve those who are attempting to obtain an education later in life.

The project constituted a vital vehicle for great masses of Sudanese civil workers who due to economic or other pressures of life were unable to attend university education. Great masses of civil workers within the Sudan, particularly in South Sudan after the CPA and the surrounding countries are in dire need and fully desirous to obtain degrees through such an institution.\textsuperscript{126}

The University of Juba’s Center of Distance Education is a program that SDSU could easily connect with to bolster the degrees, certificates, and content available in their current curriculum. It is worth taking a look at the current policy that governs SDSU to determine what steps need to be taken to begin creating and proposing distance education courses. Currently, SDSU’s policy regarding distance education is as follows:

*Distance education shall be defined as a formal educational process in which the primary instructional interaction occurs when student and instructor are not in the same physical location. Such instruction may be synchronous or asynchronous. Distance education may include audio, video or computer technologies. Programs*

\textsuperscript{124} Ibid.


\textsuperscript{126} Ibid.
in which fifty percent or more of the coursework is delivered online shall meet the substantive change requirements related to distance education programs as established by the Western Association of Schools and Colleges (WASC).\textsuperscript{127}

If it is impossible to connect with an accredited institution in South Sudan (due to WASC accreditation rules), partnering with an institution whose main focus is online learning is a way to avoid the possibility of proposed distance education not meeting accreditation requirements. Bridgepoint Education’s mission is to offer “higher access to higher education” to people everywhere.\textsuperscript{128} This partnership would save the precious time it would take to determine if distance education classes offered by SDSU to South Sudan meet accreditation requirements. In fact, it appears that not using a public institution as a partner would be best. Bridgepoint Education has the foundation to deliver quality distance education and universities such as SDSU and the Imperial Valley Campus are able to provide the subject matter experts. Both could work in conjunction to establish joint degrees with universities in South Sudan. For example, a few select faculty who are experts on water could create curriculum for Bridgepoint. As part of the partnership, Bridgepoint would host the program online. Courses such as Geology 574: Water Resources, Public Health 496: Climate Change and Health, and Environmental Engineering 442: Water and Wastewater Engineering taught by subject matter experts could be integrated into a degree program at Bridgepoint.

It is difficult to assess higher education in South Sudan without details and basic information for the remaining four public institutions in the country. The University of Juba is the starting point at this time. Once more information becomes available for the remaining public universities in South Sudan, they will be evaluated and included.

\textsuperscript{127} San Diego State University, \textit{Policy File}, (San Diego: San Diego State University, 2011), 18.

CHAPTER 7

CONCLUSIONS

Needless to say, South Sudan’s future appears grim. South Sudan has a high risk of falling victim to the resource curse if diligent steps are not taken to create thoughtful, accurate, and successful solutions to reverse this phenomenon. Unfortunately, time is not in South Sudan’s favor. Creating a new way to deliver aid to South Sudan offers all nations and private donors the chance to fix the problem the first time, the right way. This thesis offers a template that could be the foundation for a movement to begin including universities and the Diaspora in the nation-building efforts of South Sudan. All actors, including USAID, World Bank, UNICEF, AFRICOMM, UN OCHA, and NGOs have the opportunity to take advantage of the lessons learned from the extreme widespread poverty in Nigeria that was a result of mismanaged natural resource revenues, as well as applying the lessons learned through the crowdsourcing disaster response efforts in the aftermath of the Haiti earthquake and creating improved solutions and platforms that will assist in nation-building efforts.

After decades upon decades of civil war, now is the time to pull nearly 90 percent of the South Sudanese population above the poverty line. Now is the time for the people of South Sudan. While it can hardly get much worse, continuing to funnel massive amounts of foreign aid through the government’s hands is dangerous and the outcome could quite possibly be irreversible. South Sudan is at risk of also following in Haiti’s footsteps.

Rather than build another country solely on foreign aid, the collaboration between universities and the Diaspora via Cloud computing will allow South Sudan to be a role model for building a nation. Assistance from the educational infrastructure of the United States and teaching and training opportunities encourages the nation of South Sudan to learn how to build the country’s infrastructure. Learning how to build their own nation will eliminate dependence on foreign aid for the indefinite future. The linkage between universities and the Diaspora has two main advantages. First, a significant amount of money will be saved since faculty members are already paid by their respective institutions to teach. Second, a
university partnership will be able to act quicker and will be able to avoid institutional
hurdles and bureaucratic tape often involved with government.

Education is the missing piece of the puzzle. Linking universities and the Diaspora
via Cloud computing is a solution that has the potential to foster long-lasting relationships.
In order to build a solid infrastructure in South Sudan, these relationships are essential in
building a peaceful, successful, and nonviolent nation for the first time since the middle of
the 20th century.
REFERENCES


