

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Service, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.

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1. REPORT DATE (DD-MM-YYYY)
01-05-2017

2. REPORT TYPE
Research

3. DATES COVERED (From - To)
Oct 2016-May 2017

4. TITLE AND SUBTITLE
Population Growth and Resource Competition in Africa, 2017-2035: A Military Approach for The United States

5a. CONTRACT NUMBER
N/A

5b. GRANT NUMBER
N/A

5c. PROGRAM ELEMENT NUMBER
N/A

6. AUTHOR(S)
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5d. PROJECT NUMBER
N/A

5e. TASK NUMBER
N/A

5f. WORK UNIT NUMBER
N/A

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
USMC School of Advanced Warfighting
Marine Corps University
2044 South Street
Quantico, VA 22134-5068

8. PERFORMING ORGANIZATION REPORT NUMBER
N/A

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
N/A

10. SPONSOR/MONITOR'S ACRONYM(S)
N/A

11. SPONSORING/MONITORING AGENCY REPORT NUMBER
N/A

12. DISTRIBUTION AVAILABILITY STATEMENT
Unlimited

13. SUPPLEMENTARY NOTES
N/A

14. ABSTRACT
The United Nations projects an increase in Africa's population from 1.186 billion in 2015 to 1.865 billion by the year 2035. This 57% projected population increase will significantly impact the security situation in Africa. Within the continent, a population increase of this magnitude will almost certainly result in increased competition for resources, ethno-religious conflicts, migrations related to economic and other factors, and challenges to governance. These phenomena, taken in combination with terrorism and external influence, will result in increased armed conflict throughout Africa. A recommended strategy for the United States is the establishment of a relatively small number of partner nations that are demographically, economically, and politically stable, and which possess stable security situations. More importantly, each of these nations allows the United States access to key resources and facilities; And the United States is militarily prepared to be able operate in and around these nations to secure its own interests.

15. SUBJECT TERMS
Africa. Population Growth.

16. SECURITY CLASSIFICATION OF:

a. REPORT
Unclassified

b. ABSTRACT
Unclassified

c. THIS PAGE
Unclassified

17. LIMITATION OF ABSTRACT
UU

18. NUMBER OF PAGES
32

19a. NAME OF RESPONSIBLE PERSON
Marine Corps University / School of Advanced Warfighting

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(703) 432-5318 (Admin Office)

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FUTURE WAR PAPER

*Population Growth and Resource Competition in Africa, 2017-2035: A Military
Approach for The United States*

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF OPERATIONAL STUDIES

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AY 2016-2017

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Approved: *Bradley J. Meyer*

Date: *23 May 2017*

DISCLAIMER

THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHOR AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE SCHOOL OF ADVANCED WARFIGHTING OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

The United Nations projects an increase in Africa's population from 1.186 billion in 2015 to 1.865 billion by the year 2035.¹ This 57% projected population increase will significantly impact the security situation in Africa. Within the continent, a population increase of this magnitude will almost certainly result in increased competition for resources, ethno-religious conflicts, migrations related to economic and other factors, and challenges to governance. These phenomena, taken in combination with terrorism and external influence, will result in increased armed conflict throughout Africa.

As African armed conflicts and instability increase, there will be a corresponding rise in opportunities for transnational terrorist organizations and near-peer competitors to the United States, principally China, to exploit the troubles. The United States has stated its strategic interests in Africa.² Africa is a source of vital natural resources, such as Rare Earth Elements (REE) and petrochemicals. *These conditions will result in the United States finding itself increasingly drawn into African armed conflicts, for which a new national strategy based on resource competition will be necessary.*

This paper will compare current demographic conditions in Africa with conditions projected for the year 2035, including sources of armed conflict. Next, it will discuss the importance of Africa to the United States. Finally, it will propose measures the Armed Forces of the United States might take to prepare for armed conflict in the Africa of 2035. This paper will examine demographic changes and associated local conditions in five African nations to demonstrate the impact of population growth on Africa's security situation. Five short case studies will highlight why population growth will act upon the security situation. Finally, the paper will describe the significance of these changes to the

United States and suggest how the United States military might address the changes and associated armed conflict.

Current Demographics and Armed Conflict:

In 2015, Africa's population was 1.186 billion. It has a population density of 40 people per square kilometer, and forty percent of the population is urban. 41.5% of the male population is currently under 15 years old, and 61.1% of the males are under 25.³ Africa's population density is 40 people per square kilometer⁴. Forty percent of the population is urban.⁵

Current armed conflict in Africa is linked to economic conditions, exposes ethnic fault-lines, and tends to be intrastate.⁶ "Africa's rising trend of armed conflict is due to its atypically poor economic performance."⁷ Gudrun Østby, Ragnhild Nordås, and Jan Ketil Rød⁸ have identified regionally based inequalities as a source of African armed conflict. These armed conflicts correlate with regional economic and educational inequalities, which tend to closely match ethnic and other group boundaries.⁹

One of the key economic ideas linked to conflict in Africa is the "resource curse." This is the idea that "the presence of abundant primary commodities, especially in low-income countries, exacerbates the risks of conflict and, if conflict does break out, tends to prolong it and makes it harder to resolve."¹⁰ There is evidence that increased awareness of natural resources increases armed conflict in poorer countries.¹¹ Roughly half the worldwide resource-related conflicts between 1992 and 2001 were in Africa.¹²

Additionally, political instability which leads to reduced foreign investment creates an increase in economic strains.^{13 14} Localized climatic disruptions, such as drought, have increased armed conflict.¹⁵ The Social Armed conflict in Africa Database

that country, with Al-Shabaab using refugee camps as havens for recruitment and staging.²²

Future Demographics and Armed conflict:

The projected population of Africa in 2035 will be 1.865 billion people. The structure of the population is projected to have 36.3% of the males under 15 years old, and 56.1% of the males under 25 years old, with a ratio of 100.6 males per 100 females.²³ The projected population density for 2035 is 62.9 persons per square kilometer²⁴ and just barely 50% urban, an increase from 40% in 2015.²⁵

If the above demographic projections prove correct, we can then evaluate their impact upon the potential for armed conflict in Africa. African states experiencing population pressures will be at a heightened risk of becoming engaged in armed interstate conflicts.²⁶ Jaroslav Tir and Paul F. Diehl of the University of Illinois concluded that increased population pressures “have a significant impact on the likelihood of a state becoming involved in military armed conflict.”²⁷ They also found that these effects were higher in Third World and countries lower on the technology spectrum.²⁸

Future armed conflicts in Africa could well be driven by the problematic confluence of a much larger but still young population, moderately increased urbanization, and overdependence on agriculture that is susceptible to rainfall fluctuations. If the International Panel on Climate Change’s (IPCC) projections come to pass, climate change will cause rainfall variations that will further increase pressures on water availability in Africa.²⁹ Prognosticators can anticipate a greatly increased African population living in a region largely dependent on subsistence agriculture for its food. They can also expect that demands upon subsistence agriculture will be exacerbated by a

(SCAD), at the University of Texas, indicates two ways that natural resources affect armed conflict in Africa. First, abundant valuable commodities and other natural resources increase armed conflict. Second, scarcity of other “vital resources – particularly water and food – can lead to armed conflict.”¹⁶ Cullen Hendrix of the University of William and Mary, and Idean Salehyan of the University of North Texas, found a strong correlation between rainfall variation and outbreaks of violence. However, their data also suggests that armed conflict increases when rainfall is more abundant.¹⁷ This contrarian conclusion might be explained if periods of low rainfall diminish resource availability and, thus, build resentment across ethnic and/or regional divides. These resentments could well explode into violence when increased rainfall provides subsistence resources that permit antagonistic groups to fight each other.¹⁸

Migration is a major feature of the human geography of Africa with approximately 19.23 million Africans conducting intrastate, interstate and intercontinental migrations during the year 2010.¹⁹

Transnational terrorist organizations operate in several countries and their activities negatively impact per capita GDP.²⁰ The U.S. State Department has identified Al-Shabaab and Boko Haram as the principal terrorist organizations active in Africa. Al-Shabaab has affiliations with Al-Qaeda and is active in Somalia and the Horn of Africa, including Kenya, Uganda, Djibouti and Ethiopia. Boko Haram has ties to the Islamic State of Iraq and the Levant and operates principally in Nigeria and the Lake Chad Basin.²¹ There is also evidence that refugees and migrants in Africa are conduits for terrorism throughout the continent. For example, the rise in terrorist attacks in Kenya carried out by Al-Shabaab has been directly linked to the infusion of Somali refugees into

This document identifies the four pillars upon which the United States' African strategy rests. They are to: "(1) strengthen democratic institutions; (2) spur economic growth, trade, and investment; (3) advance peace and security; and (4) promote opportunity and development."³²

Africa is important to the security of the United States principally due to its wealth of natural resources. Africa is expected to continue to be a major producer of REEs and other key natural resources.³³ REEs are necessary to the manufacture of phosphors, metal alloys, hybrid and jet engines, computer hard drives, lasers, various optical components, X-ray machines, and magnets required in computing and other technologically sensitive uses. In 2013 the United States was 100% dependent on imports to meet its REE needs.³⁴

REEs are notably found in usable concentrations in Angola, Mozambique, Namibia, and South Africa.³⁵ Respectively, these countries are projected to undergo a population growth of 80.76, 67.62, 43.92 and 13.06 percent. Three of the four will undergo huge population growth.

Interstate-armed conflict represents the worst-case scenario for United States security interests in Africa because decisive armed conflicts contain the risk of creating failed states. Failed states, in turn, may create sanctuary space for transnational terrorist organizations. The increasing urbanization of Africa implies the increased probability of future African wars being fought, at least in part, on an urban battlefield. Urban warfare typically results in increased military and civilian casualties and disproportionate damage to already weak economic structures. African urbanization must be a key consideration to U.S. involvement in an African armed conflict.

decreasing and unreliable water supply. Prognosticators might further anticipate, in a region rife with other factors that could contribute to conflict, that there will be a significantly increased risk for armed conflict throughout Africa.

African armed conflicts will continue to feature transnational terrorist organizations and reveal ethno-religious tensions. African-based transnational terrorist organizations, if they continue their current trend of forming relationships with and obtaining resources from other global terrorist organizations, are at risk of becoming more violent and more capable relative to the comparatively ineffective security forces of African nations.³⁰ Unless African states can effectively cooperate to control the flow of populations across their borders and through their territories, this vulnerability will be magnified by the interstate and intrastate migrations characteristic of Africa.

Increasing urbanization and population density may provide a breeding ground for increasing instability inside African urban centers. This instability is especially likely if economic growth and food security cannot keep pace with population growth. Additionally, urban centers, some of which may become mega-cities, will bring previously distant antagonistic groups into closer contact, increasing the possibility of friction and subsequent armed conflict.

Implications for the United States

Two documents define the United States' national interests in Africa. The first is the February 2015 *National Security Strategy* which identifies the strategic interests of the United States to be preventing mass atrocities, combating the persistent threat of terrorism, confronting climate change and investing in Africa's future.³¹ The second is a June 2012 White House document entitled, *U. S. Strategy toward Sub-Saharan Africa*.

Potential Approaches to Africa for the United States

The armed forces of the United States can best support the U.S. policy for Sub-Saharan Africa (Strengthen Democratic Institutions, Spur Economic Growth, Trade, and Investment, Advance Peace and Security, Promote Opportunity and Development) by:

1. Prioritizing efforts based on economic and demographic conditions, including potential economic output, availability of key resources and projected demographic changes. Africa is too large and is becoming too populous to apply a one-size-fits all solution to the entire continent. The United States should focus upon those nations whose economic products, such as petrochemicals and REEs, are critical to the U.S. economy and where there is a reasonable chance of successful military intervention. An ideal example is Namibia, a producer of both oil and REEs, but which has a relatively low population, a lower rate of population growth and little current conflict.

2. Protecting key African economic infrastructure, including mines, petrochemical facilities, and associated transportation and communications capabilities. Any plan for military involvement in Africa during the next several decades years should prioritize securing and protecting key centers of economic production, especially those critical to the economic and security interests of the United States. It may be necessary to seize petrochemical facilities, (including refineries, pipelines, shipping facilities, and storage facilities) or to seize key REE mines, processing, and transportation facilities on the first day of a military intervention. Alternatively, the United States Africa Command (USAFRICOM) should plan to assist friendly government or, potentially, non-government forces to the level necessary to secure use of these facilities.

3. Conducting aggressive counter-terrorism operations. Africa's rapidly growing population, combined with relatively weak central governments, implies that the threat of transnational terrorist organizations based in Africa will continue to grow. These organizations will grow as their potential recruitment base will be steadily growing. Although the primary targets of these terrorist organizations are African states, institutions, infrastructure, and populations, the United States should pursue an aggressive counter-terrorism policy in Africa.

This aggressive posture is warranted by the persistent and expanding links between African terrorist groups, like Al-Shabaab and Boko Haram, and terrorist groups of non-African origin, such as ISIL and Al Qaeda. The United States is better served if these networks are not allowed to grow in geographical area, capability or membership. The terrorist threat is not static. We should anticipate that increased instability and consequent armed conflict in Africa would provide more and greater opportunities for terrorist groups.

4. Supporting African national, regional, and continental security institutions. The organization and force structure of USAFRICOM and its service components are not currently postured to conduct large-scale independent operations on the African continent, but are instead focused on engagement security force assistance.³⁶ This limitation means that USAFRICOM now focuses its efforts on supporting national, regional, and continental security institutions. Limited resources require USAFRICOM to engage principally with those countries with which the United States has legitimate economic and security interests.

Currently, USAFRICOM conducts twelve different security cooperation programs and nine different recurring exercises in Africa. These programs and exercises are not concentrated on those African countries that will experience the greatest population growth and will accrue the highest risk of instability over the next several decades. Nor, based on critical natural resources, are they concentrated upon the African nations with the greatest potential impact on U.S. strategic interests.

USAFRICOM should redress its priorities. It should increase the conduct of security cooperation efforts and exercises with those countries that have the greatest economic criticality for the United States and those countries projected to undergo the greatest population growth and potential disruption.

5. Mitigating the impact of large population disruptions and dislocations by protecting Non-Governmental Organizations (NGO) and Intergovernmental Organizations (IGO) promoting the economic development of Africa. It is unlikely that the United States can successfully respond only in a military manner to conflict and instability caused by African population growth and its associated turmoil. Both NGOs and IGOs will continue to be involved in mitigating instability in Africa. These NGOs and IGOs may have more capability than the military alone would have to address the underlying causes of conflict in a specific African region. As Africa's population grows and instability increases, NGOs and IGOs will experience increased demand for their unique skills and capabilities. As they become more involved, they will become more exposed to the threats caused by instability and conflict.

A potential military mission could be to protect NGO's and IGO's from the cupidty of the security and armed forces of various African states, from local extra-legal

armed groups and militias, and from armed non-state actors, including transnational terrorist organizations. NGOs and IGOS may require the protection and facilitation provided by the United States military to be able to work with local civil institutions to alleviate and resolve local sources of conflict.

6. Preparing to conduct combat operations in economically critical African countries against African militaries and para-militaries, non-state actors and third-party near-peer competitors. These preparations must include preparation to fight in large African urban centers up to mega-city size, such as a future Lagos.

If Africa's population increase underpins a trend of increasing conflict and instability, then the odds increase that the United States will be involved in African combat. The presence of scarce and critical natural resources required by the United States multiplies the likelihood that the United States will threaten or actually use force in Africa. Therefore, it is prudent that the United States prepares now for the spectrum of possible combat presented in economically critical African countries.

Furthermore, preparations for combat in those African countries should also consider combat against a near-peer competitor in Africa for control of critical natural resources. China, for example, has already achieved a near-monopoly of REE exports from the Republic of South Africa.³⁷ The United States must include the military dimension, fighting with allies or fighting alone, when planning to ensure a supply of these resources.

Lastly, Africa will cross the 50% urbanization threshold around 2035. After that event, odds are that future combat in Africa will be conducted, at least in part, in urban centers up to mega-city size.³⁸ Today, Africa has three mega-cities: Cairo, Egypt;

Kinshasa, Democratic Republic of the Congo; and Lagos, Nigeria. By 2030, according to United Nations projections, Africa will have six mega-cities with the addition of Dar-es-Salaam, Tanzania; Johannesburg, South Africa; and Luanda, Angola.³⁹ Five of these six mega-cities, excepting Cairo, are in countries that produce REEs. They are Angola, Tanzania and South Africa.⁴⁰

Case Studies

To better understand how the United States might involve itself in an African country or conflict, we can examine five African nations that possess a disquieting combination of vital natural resources, various instability factors, and significant projected growth.

Country	2015 Population (Millions)	2035 Population	Population Growth	Resource	Instability Factors
Angola	26.022	45.230	80.76%	Oil, REE	Political, Urban Poverty, China
Mozambique	27.978	46.896	67.62%	REE, Natural Gas	Political (RENAMO), Drought
Namibia	2.459	3.539	43.92%	REE, Oil, Uranium	China
Nigeria	182.202	293.965	61.34%	Oil	Political, Boko Haram
South Africa	54.440	61.551	13.06%	REE, Diamonds	Unemployment, Crime, HIV

Note 1: All population data from UN Probabilistic Population Projections
 Note 2: All resource data from the USGS and US Department of State
 Note 3: Instability factors from the US Department of State and Center for Strategic and International Studies

Angola, located in southwest Africa, is a relatively large country that is nearly twice the size of Texas. It is a member of the Organization of Petroleum Producing Countries (OPEC). It also possesses large stocks of diamonds, phosphates, and iron⁴¹ and

has several prospective REE mines.⁴² Politically, Angola is relatively stable and is a declared strategic partner of the United States in sub-Saharan Africa.⁴³ However, China has become the dominant economic player in Angola, providing \$20 Billion in loans since 2002. There are over 50 state-run Chinese companies active in the African nation.⁴⁴ There is evidence, however, that Angolans feel that the Chinese are exploiting them.⁴⁵ At the same time, Angola's stability is under the shadow of an 80.76% population increase by 2035, coupled with increasing urban poverty. Under these circumstances, there is opportunity for the U.S. to replace China's influence in Angola and increase its access to REEs.

Mozambique, in southeast Africa, contains numerous REE mines.⁴⁶ It has been plagued by a long-running political insurgency known as RENAMO (Resistência Nacional Moçambicana).⁴⁷ Like Angola, Mozambique has attracted significant Chinese interest and investment. This investment is mainly in the form of large-scale agricultural concerns in the Zambezi Valley. Like Angola, there is evidence that Chinese activity is not completely welcome.⁴⁸ With a projected 67.62% growth in population by 2035, a persistent political insurgency, the possession of critical REE resources, and its prime agricultural areas falling under Chinese control, Mozambique is a likely candidate for the type of instability and potential conflict that could embroil the United States. There might be direct conflict with China. It might also involve a U.S. military mission to protect NGO or IGO activity should a drought threaten Mozambique's food security and exacerbate existing insurgencies and conflicts. Yet, USAFRICOM does not currently have any major programs aimed specifically at Mozambique.

Namibia is immediately south of Angola in the far southwest of Africa. It is lightly populated and, for Africa, is projected to grow at a slower than average rate. Namibia is considered politically stable with many modern financial and legal protections for its citizens. It produces REEs and oil and is a major producer of uranium.⁴⁹ Namibia is the former home of the Royal Navy in the South Atlantic and its deep-water port at Walvis Bay is rumored to be of interest to the China's People's Liberation Army Navy as a gateway to the Atlantic.⁵⁰ For these reasons, Namibia is an African nation with which the United States should immediately and actively pursue a relationship. The relationship should include access to Namibia's natural resources and ensuring their security. Finally, due to Namibia's relative stability and because its location between Angola and South Africa makes it strategically significant in both southern and western Africa, the U.S. should create the circumstances to deny China a deep-water harbor in the south Atlantic.

Nigeria is located just north of the "waist" of Africa's western coast, between Benin and Cameroon. Niger and the Sahara Desert are to its north. Nigeria is a member of OPEC and has one existing REE mine on the Jos Plateau. Nigeria possesses one of Africa's current megacities, Lagos, and is projected to grow by 61.34% to a population of about 295 million by the year 2035. It has been historically plagued by political instability, including multiple military coups, and ethnic violence.⁵¹ Nigeria is currently the primary operating area of the transnational terrorist organization, Boko Haram.

Nigeria represents the worst-case scenario for the United States military and for future counter-terrorism operations in Africa. It has a large population that is growing and urbanizing much faster than the African average. It contains a mega-city, is rife with political instability, contains a leading transnational terrorist organization, and possesses

vital natural resources that will ensure it will remain key to U.S. interests. The U.S. military needs to prepare to ramp up counter-terrorism operations in Nigeria and be prepared to conduct combat in a mega-city.

The Republic of South Africa is located on the southern tip of the African continent. It is a major producer of REE as well as gold and diamonds. South Africa is considered a strategic partner of the United States and the two countries established a “strategic dialogue” in 2010.⁵² Although South Africa is growing more slowly (13.06%) than the rest of Africa, and is relatively politically stable, it suffers from a high crime rate and the world’s highest HIV infection rate (19.2%)⁵³. South Africa is another country where competition for resources might place the United States at odds with China. The recent emergence of mines at Zandkopsdrift and Steenkampskraal, outside of the Chinese REE monopoly⁵⁴, creates strategic opportunities for the United States to ensure a supply of these vital resources. However, if South Africa should begin to mirror its neighbors with the emergence of population growth related instability, then U.S. military action might be required to retain access to these resources.

Conclusion

The Population Division of the United Nations Department of Economic and Social Affairs’ has issued Probabilistic Population Projections based on the World Population Prospectus. The 2015 Revision projects an increase in Africa’s population of over .7 billion people from 1.186 billion in 2015 to 2035. The African population will remain extremely young (50% will under the age of 25) and will trend to be more male than female. This increase will be coupled with increased urbanization. Through the next 20 years, African security and its overall economic situation will remain relatively fragile.

These demographic conditions will probably lead to an increase in both intrastate-armed conflicts and potential interstate-armed conflicts. The instability accompanying these conflicts will have a pronounced effect on U.S. allies, especially those in Europe. The U.S. and its allies must deal with threats to natural resource supply chains, population dislocations, and the creation and persistence of havens for transnational terrorist organizations.

The United States might use East and Southeast Asia⁵⁵ as a model for improving the economic stability of Africa, thereby reducing conflict and ensuring access to strategic resources and facilities. In this approach, the United States trades on manufacturing know-how and cheaper African labor in exchange for access to REEs and facilities like Walvis Bay. The Southeast Asia model would be especially beneficial to those African nations that are experiencing a high rate of urbanization and urban unemployment.⁵⁶

The United States should begin posturing itself militarily for these circumstances. It should prioritize its engagement with the countries that are the richest in natural resources and which are most economically critical and, at the same time, are most at risk for instability due to population growth and demographic changes. It should plan for military operations with five objectives: first, protect key African economic infrastructure, to include mines and petrochemical infrastructure; second, prepare to conduct aggressive counter-terrorism operations in threatened areas; third, provide support to African national and continental security institutions; fourth, mitigate large population disruptions by protecting NGOs and IGOs involved in promoting African

solutions for economic development; and, fifth, prepare to fight in large African urban centers including mega-cities.

What does success for the United States in Africa look like? Success is the establishment of a relatively small number of partner nations that are demographically, economically, and politically stable, and which possess stable security situations. *More importantly, each of these nations allows the United States access to key resources and facilities; And the United States is militarily prepared to be able operate in and around these nations to secure its own interests.*

Appendix: USGS Google Earth Map Overlays⁵⁷



Figure 1: Rare Earth Element Mines and Prospect Sites in Angola

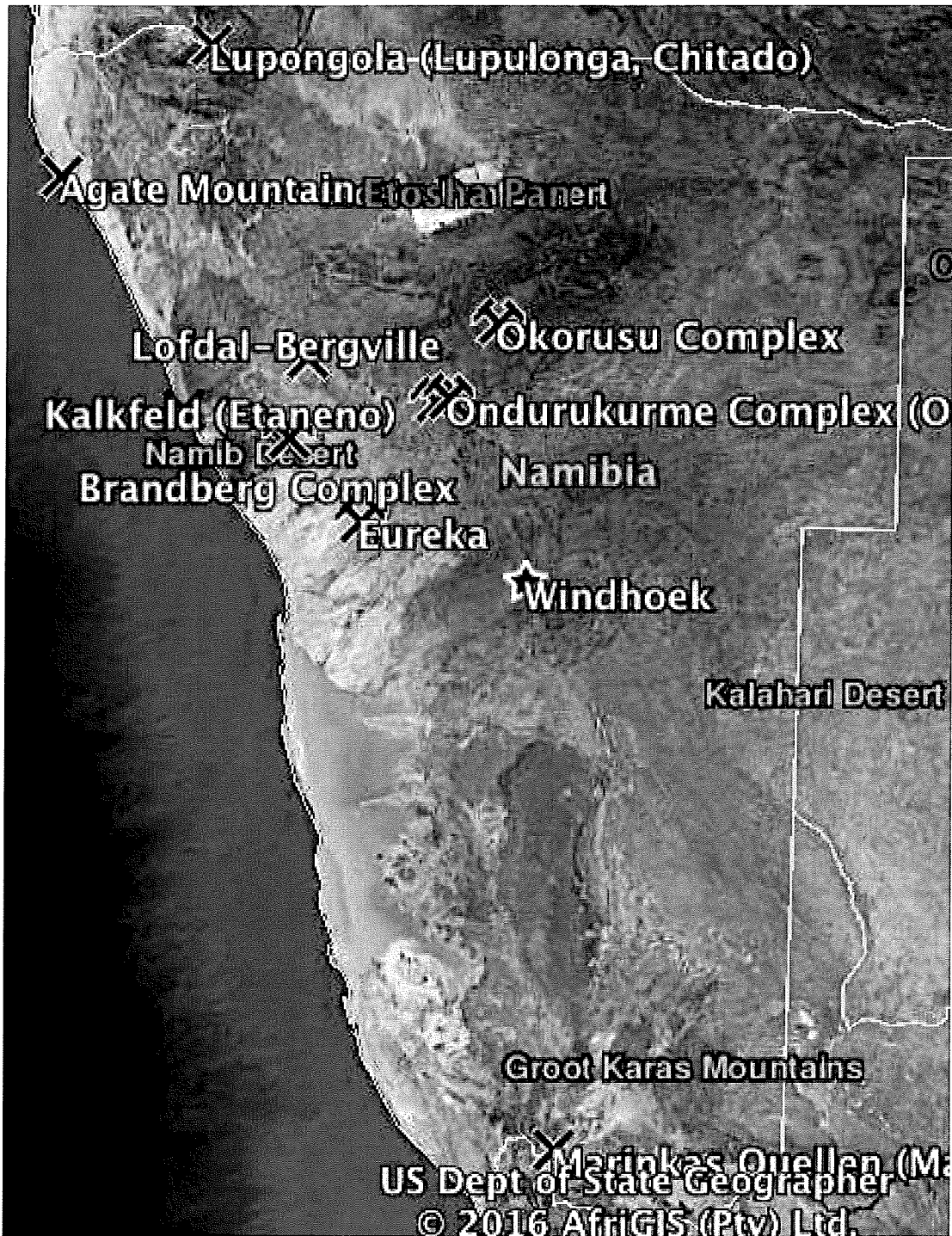


Figure 2: Rare Earth Element Mines and Prospect Sites in Namibia

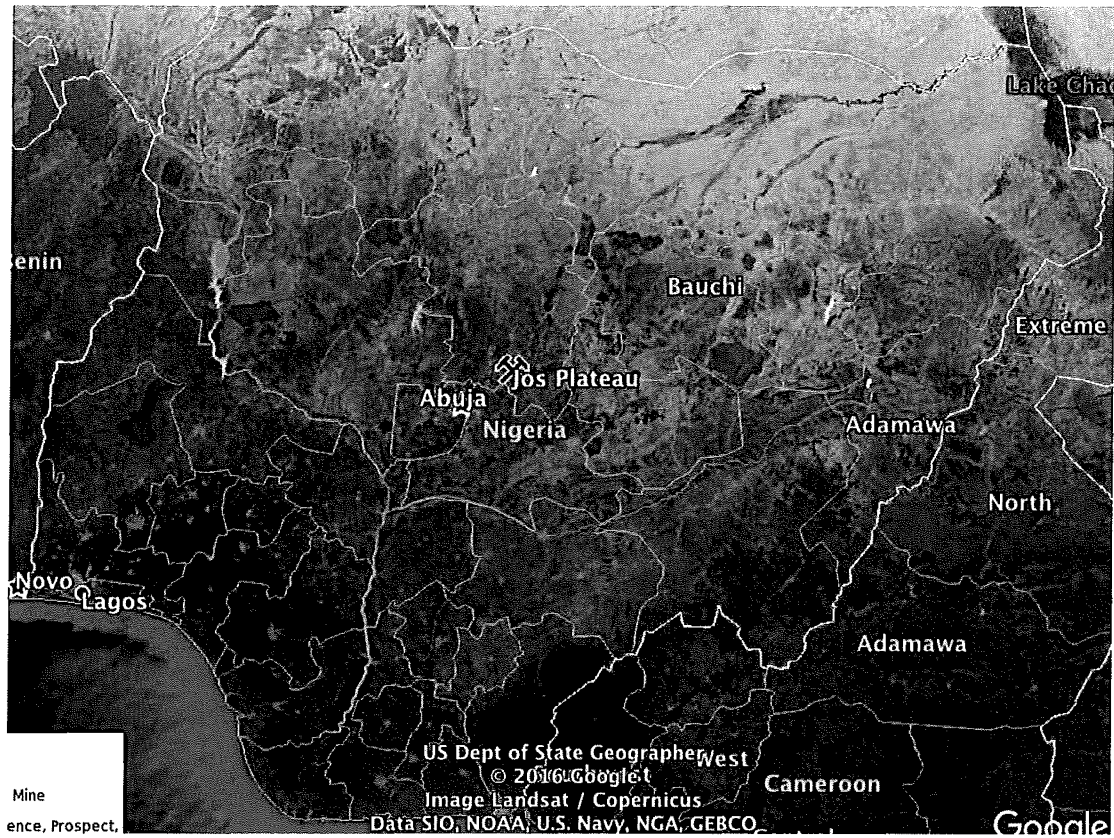


Figure 3: Rare Earth Element Mines and Prospect Sites in Nigeria



Figure 4: Rare Earth Element Mines and Prospect Sites in Mozambique

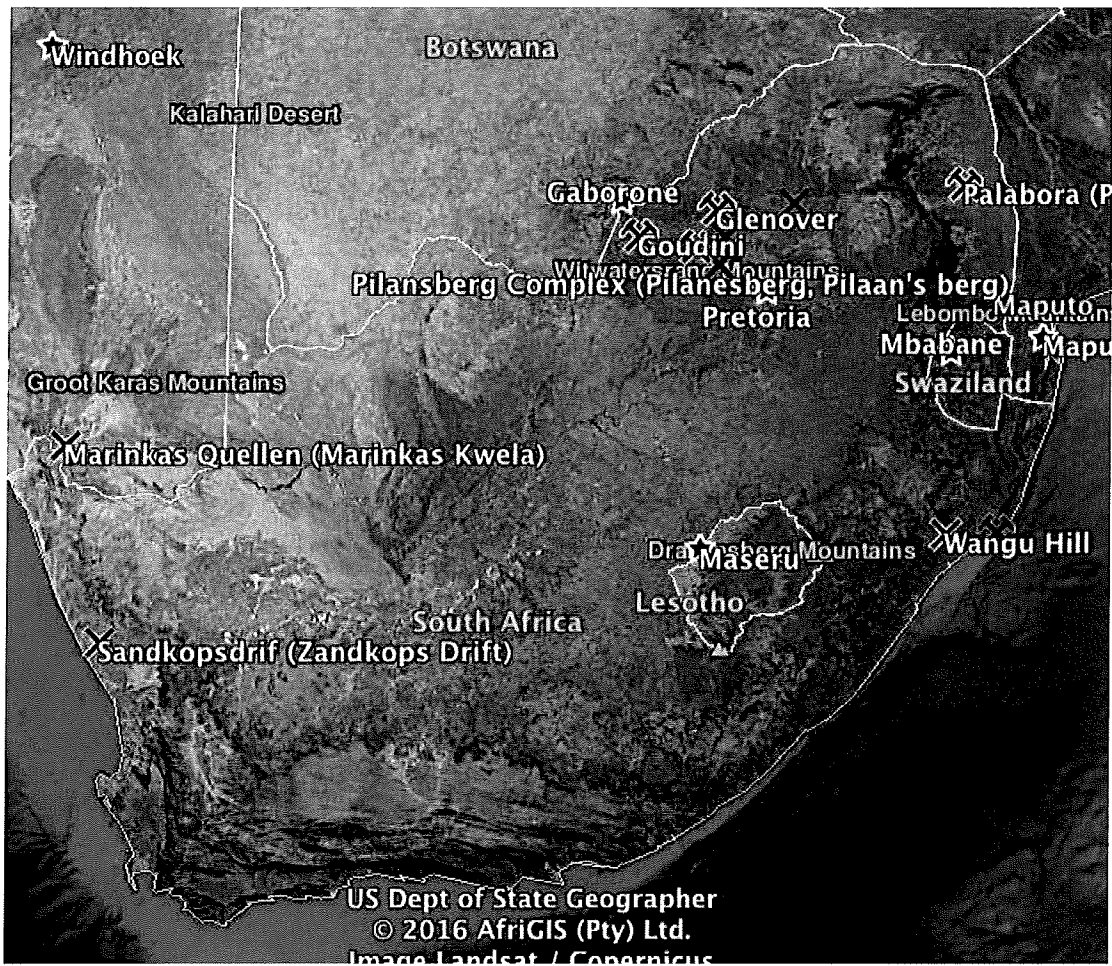


Figure 5: Rare Earth Element Mines and Prospect Sites in South Africa

Endnotes

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¹⁶ Cullen S Hendrix and Idean Salehyan, 36.

¹⁷ Cullen S Hendrix and Idean Salehyan. 45.

¹⁸ Cullen and Hendrix discuss this idea as separate components. I think that it's worth combining the low-rainfall episode armed conflicts and the high rainfall episode armed conflicts into a complete hypothesis.

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²¹ Bureau of Counterterrorism and Countering Violent Extremism, United States Department of State. "Country Reports on Terrorism 2015." <https://www.state.gov/j/ct/rls/crt/2015/257514.htm>.

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²⁴ United Nations Population Division, United Nations Department of Economic and Social Affairs, "Probabilistic Population Projections based of the World Population Prospectus: The 2015 Revision."

²⁵ United Nations, World Urbanization Prospects, 8.

²⁶ Jaroslav Tir & Paul F. Diehl, "Demographic Pressure and Interstate Armed conflict: Linking Population Growth and Density to Militarized Disputes and Wars, 1930-89." *Journal of Peace Research* Vol. 35, No. 3, Special Issue on Environmental Armed conflict (May, 1998): 327. <http://www.jstor.org/stable/424939>.

²⁷ Jaroslav Tir & Paul F. Diehl, 336.

²⁸ Jaroslav Tir & Paul F. Diehl, 336.

²⁹ M. Boko, I. Niang, A. Nyong, C. Vogel, A. Githeko, M. Medany, B. Osman-Elasha, R. Tabo and P. Yanda, 2007: Africa. *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge UK, 444.

³⁰ Simon Allison, "26th AU Summit: Why isn't the AU's counter-terrorism strategy working?" *Institute for Security Studies*. <https://www.issafrica.org/iss-today/26th-au-summit-why-isnt-the-aus-counter-terrorism-strategy-working>. This article asserts that while the AU has a "comprehensive counterterrorism framework" individual African countries have not bought into it resulting in failure.

³¹ Office of the President of the United States. *National Security Strategy*. (Washington, DC: The White House, February 2015). It's worth noting that these interests are more "ways" than they are goals, which is probably an indicator of an ineffective strategy.

³² Office of the President of the United States. *U.S. Strategy Towards Sub-Saharan Africa*. (Washington, DC: The White House, 14 June 2012).

³³ Nicolas Jepson, *A 21st Century Scramble: South Africa, China and the Rare-Earth Metals Industry* (Cape Town, RSA: South African Institute of International Affairs, 2012).

³⁴ Marc Humphries, *Rare Earth Elements: The Global Supply Chain*. (Washington, DC: Congressional Research Service, 16 December 2013), 1-4.

³⁵ "Rare earth element mines, deposits, and occurrences," *Mineral Resources On-Line Spatial Data*, United States Geological Survey. <https://mrdata.usgs.gov/mineral-resources/ree.html>.

³⁶ *United States Africa Command 2016 Posture Statement, Statement by General David M, Rodriguez, USA, Commander USAFRICOM before the Senate Armed Services Committee*, (8 March 2016).

³⁷ Jepson, 6.

³⁸ Defined as having a population of more than ten million.

³⁹ *World Urbanization Prospectus*, 14.

⁴⁰ "Rare earth element mines, deposits, and occurrences," *Mineral Resources On-Line Spatial Data*, United States Geological Survey. <https://mrdata.usgs.gov/mineral-resources/ree.html>.

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⁴² "Rare earth element mines, deposits, and occurrences," *Mineral Resources On-Line Spatial Data*, United States Geological Survey. <https://mrdata.usgs.gov/mineral-resources/ree.html>.

⁴³ "Republic of Angola," *Area of Responsibility*, USAFRICOM. <http://www.africom.mil/area-of-responsibility/central-africa/angola>.

⁴⁴ Herculano Coroado and Joe Brock, "Angolans resentful as China tightens its grip," Reuters, <http://www.reuters.com/article/us-angola-china-insight-idUSKCN0PJ1LT20150709>.

⁴⁵ Coroado and Brock, "Angolans resentful."

⁴⁶ "Rare earth element mines, deposits, and occurrences," *Mineral Resources On-Line Spatial Data*, United States Geological Survey. <https://mrdata.usgs.gov/mineral-resources/ree.html>.

⁴⁷ See: "RENAMO," Encyclopaedia Britannica. <https://www.britannica.com/topic/Renamo> for background and "Mozambique: Dhlakama Announces Seven Day Renamo Truce," All Africa. <http://allafrica.com/stories/201612280229.html> for the latest news in this ongoing insurgency.

⁴⁸ Loro Horta, "The Zambezi Valley: China's First Agricultural Colony?" Center for Strategic and International Studies, [https://www.csis.org/search?search_api_views_fulltext= mozambique%20instability](https://www.csis.org/search?search_api_views_fulltext=mozambique%20instability).

⁴⁹ "Namibia" *CIA World Factbook*, Central Intelligence Agency, <https://www.cia.gov/library/publications/the-world-factbook/geos/wa.html>.

⁵⁰ Robert C. O'Brien, "China's Next Move: A Naval Base in the South Atlantic?" Real Clear Defense, http://www.realcleardefense.com/articles/2015/03/25/chinas_next_move_a_naval_base_in_the_south_atlantic_107803.html.

⁵¹ Peter M. Lewis *Nigeria: Assessing Risks to Stability* (Washington, DC: Center for Strategic and International Studies, June 2011), 4-7.

⁵² "Republic of South Africa," *Area of Responsibility*, USAFRICOM. <http://www.africom.mil/area-of-responsibility/southern-africa/south-africa>.

⁵³ "South Africa" *CIA World Factbook*. Central Intelligence Agency. <https://www.cia.gov/library/publications/the-world-factbook/geos/sf.html>.

⁵⁴ Jepson, 3 & 30.

⁵⁵ For a detailed discussion of economic growth in east Asia see: John Page, "The East Asian Miracle: Four Lessons for Development Policy," *National Bureau of Economic Research Annual 1994* Vol. 9 (January, 1994): 219-282.

⁵⁶ See *World Urbanization Prospectus* for more details on urbanization rates.

⁵⁷ All from .kmz download taken from "Rare earth element mines, deposits, and occurrences," *Mineral Resources On-Line Spatial Data*, United States Geological Survey. <https://mrddata.usgs.gov/mineral-resources/ree.html>.

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