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by Jeremy Kelley*

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even billion is the number of human beings on this planet and that number is growing. How to provide food, clean water, shelter and jobs for this population, in ways that enhances and nurtures the Earth’s natural resources and ecosystems while supporting our survival, is the challenge of our times. Ever since the first Earth Summit in Rio de Janeiro in 1992, we have known that sustainable development is the way to meet this challenge. Sustainable development is living within our means, leaving plenty for our grandchildren, and ensuring everyone has a reasonable opportunity to lead a decent living. However, the lack of political will on the part of governments, social and environmental irresponsibility on the part of corporations, and inertia to adopt a sustainable life style on the part of citizens, have collectively contributed to this failure. To succeed in sustainable development at the quality, scale and speed needed to meet the challenge, we need strong working partnerships between governments, corporations and citizens based on trust. Trust among partners is built through openness, accountability, and participation.1

Introduction

Africa is a continent of nation states created without regard to race, ethnicity, or the territorial interests of its inhabitants.2 Mismanaged for years by imperial powers that were simply looking for ways to reap the benefits of its resource wealth, it is understandable that Africans are sometimes skeptical of Western influence and loan programs — a skepticism that the global South made apparent in the negotiations leading to the 1992 Rio Declaration.3 With the economic and political rise of China, African nations now have choices that were previously unavailable to them. China represents another source of funding for infrastructure and industrial development in Africa. But how will differences in the way China invests impact African development?

This article will examine what an increase in Chinese investment means for the African continent. Part II examines what is meant by “sustainable development” and considers how it can be achieved. Part III details China’s investments in Africa: its history, recent growth, and areas of focus. Finally, part IV returns to the question of how Chinese investment may influence African development.

The What and How of Sustainable Development

Defining Sustainable Development

Development is a value-laden concept and the definition can vary depending on which societies are deemed the benchmark of successful development; often this means ‘development’ with ‘westernization.’4 Certainly, even from a solely economic perspective, sustainable development entails not only economic growth, but an emphasis on structural change as well.5 To create sustainable economic gains, the increased share of the industrial sector is important for those developing countries that are typically dependent on primary exports, such as agriculture and natural resources.6 This is especially apparent in some oil-exporting countries which experience sharp increases in GDP but don’t see changes in their economic structure.7 But, viewing development in purely economic terms ignores many other factors that influence the lives of people in developing nations. These other social and political factors have become an ingrained part of how we now define sustainable development.

The United Nations Conference on Environment and Development (“UNCED”), held in Rio de Janeiro from June 3 to 14, 1992, presented a chance to re-envision development policy and practice following the end of the Cold War.8 Freed from the “distorting shadow of superpower conflict,” the developing countries of the global South began to assert themselves more heavily.9 While ostensibly focused on environmental issues raised by the North, UNCED was in fact steered toward issues of sustainable development by the South, as reflected by the Rio Declaration which culminated the work at UNCED.10

The Rio Declaration highlighted the growing importance of governance in development11 and the role of state cooperation in developing a sustainably supportive international economic system.12 Inherent in the Rio Declaration was the notion that development is more than just a factor of economic growth, but must also include active encouragement and participation by civil society,13 effective access to justice,14 and an awareness of those traditionally marginalized in society.15 Above all, the Rio Declaration was a proclamation that developing countries had a right to decide how they would develop16 and that development was “interdependent and indivisible” with concerns of peace and the environment.17

Measuring development should also include “social indicators” such as life expectancy, literacy, nutrition, access to health services, and so forth.18 A country may grow rapidly in terms of economic growth, but lag behind in these important areas that impact peoples’ everyday lives. In his classic work, “Development as Freedom,” Nobel Laureate Amartya Sen’s broadened development include and to focus on the concept of freedom.19 Life expectancy, literacy, nutrition, and access

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to health services, after all, are expressions of an individual’s freedoms to health and an education. Sen defines five distinct types of freedom: 1) political freedoms, 2) economic facilities, 3) social opportunities, 4) transparency guarantees, and 5) protective security. These freedoms are not only the end goals of development, but they are also the primary means for development. These freedoms are inextricably intertwined. For example, a freer political environment would generally be more conducive to liberal economics and growth than a repressive regime. People will feel more comfortable investing in a country if they know that it is secure from hostile foreign or domestic forces, evincing protective security freedom.

Strong economic growth is not necessary for the advancement of other areas of development. However, it is self-evident that a strong, growing economy can provide more opportunities and resources to address development problems, especially if the solutions are resource intensive, like improving infrastructure. That which encourages political and social freedom will also encourage economic development while the reverse is also true—political and social repression hinders economic development.

The Rio Declaration and the associated principle of socio-political development have come to define a version of sustainable development that calls for something beyond mere economic growth. However, this ethos could be challenged as China experiences an economic boom without the corresponding growth in political freedom. This is already affecting development in Africa because China, unlike many Western countries, does not emphasize the development of other social indicators as preconditions for economic development assistance.

**Spurring Economic Growth**

While sustainable development encompasses more than just economic growth, it is generally agreed that, especially in the poorest countries, economic growth is a crucial component of development. Economies can grow by promoting a number of factors such as increased efficiency, enhanced education, technological change, accumulation and investment of capital, and the exploitation of natural resources. In many developing countries these “modern” means of economic growth coexist with traditional economic sectors. An inherent problem in dualistic economic structures is that they foster economic and social gap between the modern and traditional means of economic growth and, as a result, there are high levels of income inequality. In Africa, one way this dualism can be seen by viewing extractive industries amongst traditional or early-stage modernizing economies.

The way a society approaches dualism and structural change can either promote or hinder growth. For example, reinvestment from agrarian sectors toward industrial sectors, the encouragement of entrepreneurship, and creation of capital can drive a country to the point of establishing sustainable growth. Although less developed countries will initially lag behind more developed countries as they gradually develop traditional sectors into modern ones, those less developed nations can catch, and even overcome, developed countries if they remain committed to this policy. While each country must take its own path toward modernization, all long-term success will undoubtedly involve structural transformation.

**It’s a Trap! Natural Resources and Bad Governance.**

“With hard work, thrift, and intelligence, a society can gradually climb out of poverty, unless it gets trapped.”

A short-sided reliance on the exploitation of primary resources as an engine of growth is a temptation that confronts many African nations and could possibly jeopardize long-term sustainable growth. Primary exports can encourage economic growth in a number of important ways. They can provide a source of surplus foreign currency that eases import of those capital goods and intermediate goods that are needed to modernize an economy. They also provide linkages to other industries, forward and backward, on the chain of production. For example, an oil-exporting nation could develop a refining industry. Primary exports also provide a source of income for local populations which, if spent in the domestic economy, will increase the demand for manufactured goods that can be translated into domestic production. Taxes on primary exports can provide an important source of revenue for poor governments that can be reinvested in other development sectors — social, health, infrastructure, or other programs. However, over-reliance on a single sector of an economy can spell ruin. Without the development of a co-existing industrial sector to offset the exploitation of primary resources, especially extractive industries, an economy can easily fall into the resource trap and its accompanying problems of corruption, misgovernance, and underdevelopment.

The resource trap (or resource curse) consists of three parts: 1) Dutch disease, 2) susceptibility to fluctuations in commodity prices, and 3) negative political and institutional effects. Under Dutch disease, named after the effects the discovery of gas in the North Sea on the Dutch economy in the 1960s, resource exports cause a country’s currency to rise in value against other currencies, making the country’s other export activities uncompetitive. In moderation, this affect can be positive for development because the surplus in foreign currency can be used to import goods needed for industry. Taken to the extreme, however, the devaluation of domestically produced goods destroys any existing export market and, as local services, agricultural products, and manufactured items become more expensive, resources are diverted away from production. Instead of building a diverse, modern, industry-driven economy, countries plagued by Dutch Disease find themselves unable to create competitive agricultural or industrial exports, thereby limiting their chances for sustainable economic growth.

Resource-dependent economies are also susceptible to fluctuations in world commodity prices. The result is a boom and bust cycle: the economy is flushed with money when commodity prices are high, but starved for revenue when the prices drop. When there is a great excess of wealth, governments tend to spend on all sorts of projects whether they are needed or
not.\textsuperscript{49} During the lean times, living standards start to fall and the government must make tough choices about what must be cut. This cyclical boom and bust makes it difficult for electorates to judge whether the government is making wise use of money or investing in great mistakes.\textsuperscript{50}

Above all, “[t]he heart of the resource curse is that resource rents make democracy malfunction.”\textsuperscript{51} Corruption and misgovernment are the effects of patronage politics that too often become the standard when massive resource rents find their way into a democratic society.\textsuperscript{52} Furthermore, the more ethnically diverse a society, the more patronage politics comes into play; this is one reason why Africa experiences such grand corruption.\textsuperscript{53}

In a resource state, the government is less accountable to the people. First, because there is less need to tax the population, citizens are less apt to scrutinize how tax income is spent.\textsuperscript{54} Second, resource dependence erodes governmental checks and balances, leaving the electoral competition unconstrained and, when combined with patronage and ethnic division, parties can use the resource rents to buy votes, rig elections, or simply force opposition parties out of power.\textsuperscript{55}

“The resource-rich, ethnically diverse societies need a democracy that is distinctive in having a strong emphasis on political restraints relative to electoral competition.”\textsuperscript{56} In the alternative, these countries will likely misuse resources and miss the chance to invest resource income in ways that drive economic modernization and diversification. Caught in a downward spiral of uncompetitive exports and bad governance, the abundance of resources can spell disaster for a developing economy.

\textbf{Chinese Investment in Africa}

Sino-African trade has recently exploded as China’s growing economy requires more resources and markets for its manufactured goods.\textsuperscript{57} Two-way trade between Africa and China stood at 10 billion U.S. dollars in 2000, rising to $18 billion in 2003, then $50 billion in 2006.\textsuperscript{58} During this period the average increase in trade per year was thirty-three percent.\textsuperscript{59} Trade surpassed $120 billion in 2010.\textsuperscript{60} In the past two years, China has given more loans to poor countries than the World Bank.\textsuperscript{61}

\textbf{History of Chinese Trade in Africa}

China has been trading with Africa for centuries, dating as far back as the Tang Dynasty (618-906 AD).\textsuperscript{62} Chinese porcelain from the 9th century and coins from the 12th century have been found across East Africa.\textsuperscript{63} Early trade, however, collapsed with the death of Emperor Yongle and the resurgence of Confucianism which promoted agriculture to exploration and trade.\textsuperscript{64}

Only in the 1960s did China again begin to show interest in Africa. Between 1963 and 1964, Zhou Enlai, then Vice-Chairman of the Communist Party of China, made an extensive tour of Africa to strengthen Sino-African relations.\textsuperscript{65} Foreshadowing the concept of South-South cooperation, he advocated mutual economic assistance between “poor friends” and attacked the “maltreatment of small and weak countries by the big and strong.”\textsuperscript{66} He pledged that Chinese assistance “would respect the sovereignty of the recipient country, would be given on generous terms, and would strive to enhance self-reliance.”\textsuperscript{67}

Modern Chinese investment in African infrastructure projects was born during this era.\textsuperscript{68} The 1860-kilometer Tanzania-Zambia (“Tanzam”) Railroad linking Zambia with the port in Dar es Salaam in Tanzania exemplified this new investiture.\textsuperscript{69} Employing 50,000 Chinese workers and costing $500 million, it has remained one of the most costly infrastructure investments China has ever made in Africa.\textsuperscript{70} However, Chinese investment during this time was more ideologically than economically motivated and focused on supporting the region’s guerilla fighters and Socialist regimes, such as Julius Nyere’s Tanzania.\textsuperscript{71} This ideological approach to investment ended with the death of Mao and the end of the Cultural Revolution, but more economically focused development emerged from the economic reforms undertaken by the Deng Xiaoping regime.\textsuperscript{72}

Two key events marked the beginning of the current trend of increasing Sino-African trade.\textsuperscript{73} First, the Tiananmen Square demonstrations served to isolate China from the West.\textsuperscript{74} Unwilling to criticize China for fear of exposing themselves to criticism and hoping to gain support from China, most African nations remained silent about the events and worked behind the scenes to move into the void that Western isolation had left.\textsuperscript{75}

Second, the end of the cold war in 1991 meant that the economic tug-of-war for African allegiance was at an end\textsuperscript{76} and, suddenly, aid and loans from Western nations and institutions such as the World Bank and the IMF began to come with attached conditions.\textsuperscript{77} African leaders that were once accustomed to maintaining power through patronage systems of Western funds were now faced with the prospect of losing power.\textsuperscript{78} Increased investment from China, who does not give the same weight to concerns of governance and human rights, can provide African states with less-encumbered loans and aid, addressing the need for capital in Africa and skirting the very real issue of misgovernance.

\textbf{Impact of the Financial Crisis — The Need for Capital}

The current global economic crisis has dramatically reduced Western foreign direct investment in Africa\textsuperscript{79} and has also reduced the value of commodity assets countries once relied upon for export profits.\textsuperscript{80} The result has been that it is “virtually impossible” to raise capital for exploration or development of resources.\textsuperscript{81} This scarcity of capital has negatively impacted African infrastructure development.\textsuperscript{82} According to the World Bank’s Public-Private Infrastructure Advisory Facility, the retreat of investment capital from Africa has made “[infrastructure] financing (both debt and equity) more onerous and difficult to secure.”\textsuperscript{83}

While capital is being withdrawn by western investors, Chinese institutions have been expanding their investment, especially in extractive industries.\textsuperscript{84} China’s major players in this field are not only private investment banks, but also state-owned policy banks.\textsuperscript{85} Jiang Jianqing, Chairman of the Industrial Commercial Bank of China (“ICBC”), expressed that Chinese
investment in Africa is “growing and becoming more diversified, even as the global downturn curbs investment by other countries.”

**Oil Above All, But There is More**

Currently, extractive industries remain the central focus of Chinese investment in Africa. This investment has turned China from the second largest exporter of oil in Asia to the second largest importer of oil in the world in a matter of only nine years. Driven partly by the meteoric increase of cars on Chinese roads (estimated to reach 100 million by 2015) and partly by increased industrial demands, China expects to import between ten and fifteen million barrels of oil per day by 2020 — twice Saudi Arabia's total production and equal to that of the entire African continent. Currently, Africa supplies thirty percent of China's oil needs, compared to the fifteen percent of demand Africa satisfies for the U.S. Approximately seventy percent of African exports to China consist of crude oil and an additional fifteen percent of other raw materials.

As a late-comer to the established oil fields such as those in Nigeria and Angola, China has had to work hard to make inroads against established players. For this reason, China is actively seeking new fields in Gabon, Niger, Kenya, Uganda, and other areas often over-looked by Western states. Unlike many Western companies, Chinese companies are willing to take more risk and will work in more politically unstable regions.

Oil is not the only resource China is seeking in Africa. While oil constitutes seventy percent of African exports to China, an additional fifteen percent of exports are in the form of other mineral resources. In particular, China has been active in pursuing sources of cobalt in Africa. Africa produces fifty-one percent of the world's cobalt, of which, eighty-eight percent of that comes solely from the Democratic Republic of the Congo (“DRC”). Recently, Chinese companies, China Railway Engineering Corporation (“CREC”) and Sinohydro, have entered into an agreement to establish a joint Sino-Congolese venture, named Sicominex, that will provide the DRC with China Export-Import (“EXIM”) Bank financed infrastructure in exchange for copper and cobalt mining concessions. The $9 billion venture would provide $6 billion worth of road construction, two hydroelectric dams, hospitals, schools and railway links to southern Africa, to Katanga, and to the Congo Atlantic port at Matadi; the other $3 billion to be invested by China in development of new mining areas. The deal has recently come under fire as a $23 million signing bonus for Gecamines, the Congolese partner involved, disappeared under allegations of corruption. Such allegations have unfortunately become standard in Chinese-financed programs which typically lack even a modest amount of transparency.

**Is Chinese Investment in Africa a Curse or a Cure?**

There is no doubt that Chinese investment presents African states with some clear advantages, especially at a time when Western investment has declined. Chinese investment could be the cure for a continent in need of capital-intensive investment in infrastructure and economic modernization. However, it is important to bear in mind that sustainable development is not solely about economic growth. Without examining the potential pitfalls of Chinese investment, particularly the over-investment in extractive sectors and its accompanying problems of misgovernance and dependence on a sole export, the increased economic growth may instead end up as a curse for Africa.

**Cures**

**The Commodities-for-Infrastructure model**

“The Chinese Government’s strategy in Africa is starting to mimic the approach adopted in the home market itself, one that channels sizeable amounts of capital through state-owned (policy) banks at key sectors.” While this strategy has been directed mostly towards direct investment in extractive industries, a shift has begun to focus on infrastructure development in exchange for concessions on resources. In 2006, China spent $7 billion dollars on infrastructure in Africa; in 2007 China invested an additional $4.5 billion dollars.

While Africa has been showing robust growth in recent years, one major constraint on sustainable development has been the poor state of the continent’s infrastructure, which depresses productivity by as much as forty percent. It is estimated that Africa needs at least $93 billion to close the infrastructure gap. Another challenge to developing infrastructure is the current cost of transportation in Africa, which is higher than that of other developing regions. According to the United Nations Conference on Trade and Development, “while freight costs for the world on average amount to 5.4 percent of imports, this value is up to five times higher for some African countries.” A World Bank study showed that, in 2007, the average cost in U.S. dollars to export a container from Africa was $1,649 compared to the Organization for Economic Co-operation and Development (“OECD”) average of $889.

Many African states have received financing for thermal or hydro power projects to facilitate much-needed electrification. By the end of 2007, China had provided $3.3 billion for hydropower amounting to a 6,000 megawatt capacity, which would increase total generation capacity in sub-Saharan Africa by 30%. Given Africa’s need for infrastructure, China’s infrastructure-for-concessions policy may be seen as a win-win situation for Africa. As of 2008, China has financed infrastructure projects in over thirty-five African countries. Yet, criticism tugs at the edges of this investment boom. First, Chinese companies often use Chinese labor in places where local labor could be used. Instead of the money for infrastructure projects being pumped into the local economy, much of it is repatriated back to China where it originated. Second, there is little financial or technical investment to maintain the infrastructure constructed by Chinese workers. While African states will benefit from the infrastructure, the money could also be used to finance employment opportunities for African workers. Additionally, there are always potential issues of transparency and corruption associated with...
large investments, as indicated in the DRC Sicomines deal, which must be addressed to encourage sustainable development.

**Investment in the Industrialization of Africa**

“As China Inc.’s knowledge and network in Africa deepens, the diversification of China’s investment footprint away from the energy sector in Africa will become an emerging trend in China-Africa commercial ties.”119 There is a hopeful sign in this diversification; Chinese companies are increasingly investing in manufacturing in Africa in addition to the usual extractive industries.112 “A Chinese government survey shows the growing use of Africa as an industrial base. Manufacturing’s share of total Chinese investment (22%) is catching up with mining (29%).”113 Future Chinese investment in manufacturing could help mitigate the negative effects that heavy investment in extractive industries alone causes to African export industries.

China announced the “Go Global” strategy in 2000114 as a strategy to both develop markets for China’s export products and relieve pressure from the accumulation of foreign currency as well as develop new sources of energy and raw materials115 Go Global has encouraged Chinese enterprises to establish offshore operations in designated Chinese special economic zones (“SEZ”).116 These zones “promote Chinese foreign commercial interests,” “create safe-havens for Chinese capital”, and offset “increased protectionist trade practices against Chinese companies.”117

The establishment of these light industrial zones creates jobs for local citizens and helps offset the criticism that cheap Chinese imports have undermined Africa’s weak manufacturing sectors.118 The African Development Bank recently said of the Chinese SEZs, “The special economic zones are expected to make a significant contribution to industrialization in Africa although their success is by no means guaranteed.”119 This type of industrialization could be conjoined with the extractive industry to establish forward and backward links in production—such as refining and the manufacture of mining machinery—which can help diversify and strengthen local economies.120

However, international criticism of the SEZs points to the employment of large numbers of Chinese laborers in the construction of SEZs and to the procurement of resources exclusively through Chinese channels.121 Too heavy a focus on SEZs “could limit progress towards regional integration,” as countries compete for investment from China instead of developing local capacity.122

**Curses**

**Heavy Investment in Extractive Industry May Exacerbate the Resource Curse**

It is not only the Chinese who come to Africa and heavily invest in extractive industries. Western companies have been exploiting African resources since the colonial period and continue to dominate, especially in the oil industry. This has had adverse effects on African economies through the resource curse and its resultant bad governance.

Ghana’s Center for Policy Analysis (“CEPA”) recently warned that Ghana will likely suffer from the effects of Dutch Disease as it begins commercial production of oil.123 To mitigate the effects of Dutch Disease, CEPA plans to closely manage the exchange rate, perhaps pegging the Ghanaian Cedi to parity with the US dollar.124 The economics of Dutch Disease can be offset by efficient management of currency, appropriate pacing of resource exploitation, and concurrent investment in modernizing industry.125 It is the effects that resource rents have on the governance of a politically divided, weak, or unstable nation that are the most concerning aspect of the resource curse.126

Chinese investment in Africa has the potential to exacerbate the misgovernance aspect of the resource curse. While Western companies have demanded more of their companies and criticized them for investment in nations with poor human rights records, China makes no such distinctions. Chinese investment does not require recipient countries to implement any kind of anti-corruption measures, nor does it monitor whether the money is appropriately spent or disappears into the pockets of corrupt leadership.127

**Addressing the Resource Curse**

In general, three interconnecting factors can be addressed to encourage appropriate use of resource revenues: (1) transparency, (2) accountable governance, and (3) economic and political policies which take proper account of horizontal and vertical divisions of power in the society.128 Even as the Rio Declaration has called for further transparency,129 new global initiatives have brought transparency in the extractive industries to the forefront of development.

The Extractive Industries Transparency Initiative (“EITI”) “aims to strengthen governance by improving transparency and accountability in the extractives sector.”130 It does so by monitoring and reconciling company payments and government revenues at the level of individual countries; to be deemed “EITI compliant,” each country needs to implement EITI compliant regulations and establish a multi-stakeholder group of civil society, government, and private industry representatives to oversee implementation.131

Under ideal conditions, EITI would be a benefit for all parties involved: governments would benefit from transparency and an anti-corruption stance which would lead to improvements in tax revenue and “enhanced trust and stability in a volatile sector;” companies would benefit from a level playing field where all companies must disclose the same information; civil society benefits from receiving reliable information from the government and companies; and the energy sector would see increased stability which encourages long-term investment.132

While it is empirically inconclusive whether EITI enhances a country’s development potential, there are many positive signs which have encouraged countries to begin the compliance process.133 To date, twenty-one African nations have completed or are in the process of obtaining EITI compliance status.134 One recent case study suggests that, even in the most pervasively corrupt countries, EITI initiatives can shed light on the issues.
of governance and accountability, even if it offers no certain answers.\textsuperscript{135}

Chinese companies working in an EITI compliant country are following the reporting framework established by that country and, to date, Chinese companies have reported in Gabon, Kazakhstan, Mongolia, and Nigeria.\textsuperscript{136} China has expressed its support for the EITI “in several international fora,” including the UN General Assembly and the G20.\textsuperscript{137} China could benefit from further support of EITI as it would provide more political stability when challenging operational environments and would allow Chinese companies to compete at an equal level with Western companies.\textsuperscript{138} Because EITI “affirm[s] that management of natural resource wealth for the benefit of a country’s citizens is in the domain of sovereign governments to be exercised in the interest of their national development,” China need not worry about moving from its “non-interference” foreign policy.\textsuperscript{139} Instead, since EITI is implemented and monitored domestically, Chinese companies are merely complying with domestic law and that law offers benefits for compliance.\textsuperscript{140}

Transparency, however, will not solve the problem entirely. A government must be accountable to its citizen if disclosure of potential corruption is to have any effect.\textsuperscript{141} Effective anti-corruption initiatives are based upon “mass mobilization” and hold leaders politically accountable for the misuse of state funds.\textsuperscript{142} Of course, a multi-party democracy is the most obvious form of accountable governance.\textsuperscript{143} However, even in a dictatorship, mass protest to the misuse of resources may impose pressure to reduce corruption.

In order to secure accountability, any development initiative must take into account a country’s horizontal and vertical power relationships.\textsuperscript{144} This is especially true in multi-ethnic and divided societies; because trust is a powerful factor in governance and corruption, development programs must work to establish institutional and economic ties between horizontally fractured power structures.\textsuperscript{145}

**Addressing Chinese Investment in Light of the Principles of Sustainable Development**

The Rio Declaration urges states to cooperate in promoting sustainable development.\textsuperscript{146} It also embeds principles of transparency and accountability.\textsuperscript{147} As a direct result, a global network of civil society organizations is working to ensure access to information, participation, and access to tribunals and justice.\textsuperscript{148} While gaps still remain, norms of accountability are gaining force.\textsuperscript{149}

Rio + 20 looks to further emphasize issues of accountability and governance which affect sustainable development.\textsuperscript{150} The High-Level Panel on Global Sustainability recently highlighted the “need to integrate economic, social, and environmental dimensions” in order to achieve sustainable development.\textsuperscript{151} The Panel, in the tradition of the Rio Declaration’s Principle 1, places humans at the center of sustainable development.\textsuperscript{152} Unlike Rio, the Panel calls on humans to “claim their rights and voice their concerns” against “persistent inequality which offends deeply held universal principles of social justice.”\textsuperscript{153} The socio-economic change needed will only come through transparent and accountable public-private partnerships.\textsuperscript{154} The writing is on the wall that transparency and accountability are the new emphasis in development and that China would be wise to turn its investment policy in that direction.

To China, development has been more of an economic concept than it is to Western organizations and as portrayed in the Rio Declaration. While it is China’s policy not to interfere with the political situations in the countries where it invests, it must be assured of political stability to ensure the security of its investments. Democracy typically provides stability. Through support for EITI and other governance initiatives, China may not be supporting democracy per se, but is supporting accountable governance.

One promising outlook for African development is the increased practice of corporate social responsibility (“CSR”) within Chinese companies.\textsuperscript{155} CSR generally means that companies will meet “the legal requirements and broader expectations of stakeholders in order to contribute to a better society through actions in the workplace, marketplace and local community and through public policy advocacy and partnerships.”\textsuperscript{156} Almost all Chinese business leaders in Africa surveyed in 2010 were familiar with CSR and generally described CSR “in terms of contributing to local economic growth and job creation, complying with local laws and caring for the environment, and making philanthropic donations to support schools and hospitals.”\textsuperscript{157} Key drivers of CSR growth included Chinese government support for CSR, the adoption of international standards and collaboration (including EITI), and the establishment of CSR training and skills development programs.\textsuperscript{158}

It seems Chinese businesses are open to the idea of CSR, but as the 2010 study concludes:

One key difference between Chinese and western conceptions of CSR concerns the extent to which they are willing to consider whether business practices reinforce or undermine local legal and political institutions, particularly in institutionally weak countries. While the Western model for overcoming state corruption in managing natural resource revenues is based on encouraging transparency, the Chinese model has tended to rely on direct provision of public infrastructure. This is aided by Chinese companies’ access to low-cost and long-term capital. However, there is long experience of foreign funded infrastructure projects being developed in Africa, which do not meet local needs, and are not supported with maintenance, which remains a challenge to this model of business in development.\textsuperscript{159}

**Conclusion — Is Chinese Investment Just Like the Rest? Or Will It Kick-start an African Renaissance?**

The central question about Chinese investment in Africa is whether it will be more effective at establishing long-term sustainable development than the Western model, which has
not been as effective as the West would have hoped. Certainly, Chinese investment in Africa is popular amongst Africans, even more so than aid which comes from the West. It is also certain that Chinese and African fortunes are tied together as there is a clear correlation between Chinese and African growth since 1999. Chinese investment in infrastructure and modernizing industry has the potential to kick-start stagnant African growth and begin a new era of economic development.

However, economic growth will not translate into sustainable development if it does not deal with Africa’s limited diversification, susceptibility to volatile commodity prices, and misgovernance and corruption. While it may not be willing to interfere directly, China will want political stability to ensure its investments pay off and its supply lines remain intact. This may mean supporting authoritarian regimes, as China did in Sudan. Yet, it may also mean supporting new emerging international standards for transparency and accountability such as the EITI.

Significant criticism has been laid on the West’s doorstep for the failures that billions of dollars in aid have produced in Africa. Whether Chinese investment creates sustainable development in Africa will be determined not only by the continued diversification and investment in infrastructure, but also by the way African society adapts to and propels the changing economic and social environment. While Chinese development may not expressly include many of the freedoms the West deems to be indicators of development, it remains to be seen whether these freedoms will be the ends and means of a uniquely African sustainable development.

Endnotes: China in Africa: Curing the Resource Curse with Infrastructure and Modernization

2 See, e.g., W.E. Smith, Nyere of Tanzania 88 (1974) (quoting Julius Nyere, the father and first president of the modern state of Tanzania as saying, “It is impossible to draw a line anywhere on a map of Africa which does not violate the history or future needs of the people.”).
4 Adam Szirmai, The Dynamics of Socio-Economic Development 11-12 (2005) (noting that although “Western countries have become models for ‘modern societies’ and development and westernization may have become conflated, these ideas are challenged by the shifting center of economic and political gravity toward Asia).
5 Id. at 6 (“Even if we limit ourselves to the economic sphere, it is clear that economic development is more than economic growth alone. Economic development refers to growth accompanied by qualitative changes in the structure of production and employment, generally referred to as structural change.” (citing S. Kuznets, Modern Economic Growth: Rate, Structure and Spread (1966)).
6 Id.; see also id. at 109-12 (detailing how developing countries may affect structural change through first the development of industry and a later transition into the service sector).
7 Id. at 23 (placing oil-exporting developing countries in a separate group, cutting across income classification, and noting their central problem in realizing structural change).
9 Hunter, supra note 3, at 155.
10 Id. at 155, 163 (noting that the “Rio Declaration may be understood as a bargain between the affluent North concerned with global environmental problems and the poor South concerned primarily with development questions,” but that the South appeared to gain much leverage and, in the end, “the Rio Declaration seems to highlight development issues more than the environment”).
11 See Rio Declaration, supra note 3, princ. 10 (raising the importance of civil society knowledge of and participation in the decision-making processes); De Silva, supra note 1 (describing how “[r]elations of transparency, participation and accountability were embedded in Principle 10 of the Rio Declaration”).
12 Rio Declaration, supra note 3, princ. 12 (“States should co-operate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation.”)
13 Id. princ. 10. (“States shall facilitate and encourage public awareness and participation by making information widely available.”).
14 Id. (“Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.”).
15 Id. princ. 20 (women); id. princ. 21 (youth); id. princ. 22 (indigenous peoples).
16 Id. princ. 2 (“States have . . . the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies . . .”).
17 Id. princ. 25.
18 Amartya Sen, Development as Freedom 7, 15-16 (1999) (explaining the many ‘unfreedoms’ people across the world suffer to include social, political, and economic deprivations of freedom).
19 Id. at 3 (noting that “[f]ocusing on human freedoms contrasts with the narrower views of development, such as identifying development with the growth of gross national product, or with the rise in personal incomes, or with industrialization, or with technological advance, or with social modernization” but that freedom depends on these other influences as well).
20 Id. at 38 (explaining that these freedoms are instrumental because they “contribute to the general capability of a person to live more freely” as well as compliment and strengthen each other).
21 Id. at 10, 36 (defining development as “the process of expanding human freedoms”).
22 See id. at 53 (noting that the “instrumental roles of freedom include several distinct but interrelated components” the development of one is required for and supported by the development of all others).
23 Id.
24 See id. at 46-48 (exemplifying that life expectancies in China and Sri Lanka in 1994 were above 70 years while GDP per capita lagged back at less than $1000, while in contrast, South Africa and Gabon had GDP per capita around $4000 and yet life expectancy was below 60 years of age in both countries).
25 See id. at 3 (emphasizing that economic growth is not merely an end, but there is an inter-relation between other development indicators and economic growth).
26 See Szirmai, supra note 4, at 12 (noting that “an emerging China might well become a new model of modernity”).
27 Id. at 7 (finding in his analysis, that “most authors reached the conclusion that, especially in the poorest countries, growth is a prerequisite for development, which development is more than just growth”); see also Sen, supra note 18.
28 Szirmai, supra note 4, at 69 (listing these factors which can each “be represented in the form of a basic production function, which relates to the so-called proximate sources of growth” (emphasis omitted)).
29 Id. at 78 (explaining that the modern sector is technologically developed and located in or around urban centers, while the traditional sector is predominantly rural and lacks the productive capacity of modern means).
See Battu, supra note 18, at 30 (discussing sustainable development’s integration into newly drafted constitutions of the British government, making the principle a fundamental aspect of urban planning decisions, “imposing on the urban planning system a duty to implement the Government’s strategy for sustainable development”).

TFEU art. 191(2).

E.g. Case 302/86, Comm’n v. Denmark, 1988 E.C.R. 4627 [hereinafter Danish Bottles] (holding that the transportation of goods in commerce can be halted in order to protect the environment).


The Cassis de Dijon doctrine allowed a court to halt the free movement of goods, holding that “[o]bstacles to movement within the community resulting from disparities between the national laws relating to the marketing of products in question must be accepted insofar as those provisions may be recognized as being necessary in order to satisfy mandatory requirements relating in particular to the effectiveness of fiscal supervision, the protection of public health, the fairness of commercial transactions and the defence of the consumer.” Case 120/78, Rewe Zentral AG v. Bundesmonopolverwaltung für Branntwein, 1979 E.C.R. I-1919 [hereinafter Raffinerie].

SpA, ENI SpA v. Ministero Ambiente e Tutela del Territorio e del Mare, 2010 E.C.R. 4627 [hereinafter Raffinerie SpA].

Danish Bottles, supra note 82, at ¶ 21–23.

See Joined Cases C-379/08 & C-380/08, Raffinerie Mediterranee (ERG) SpA, ENI SpA v. Ministero Ambiente e Tutela del Territorio e del Mare, 2010 E.C.R. I-1919 [hereinafter Raffinerie].

See generally Collier, supra note 35, at 38-52 (describing the natural resource trap).

Id. at 39-40.

Id. at 39-40.

See id. at 40-41 (exemplifying Kenya and Nigeria as countries which have seen their resource “gravy train come to an abrupt end” and are then faced with drastically reduced revenues).

Id. at 40 (positing that in times of resource wealth booms, “rational public investment is liable to go out the window” and public spending will increase dramatically).

See id. at 40-41 (showing how the economic hardships resulting from the bust of Nigeria’s oil boom in 1986 were easily blamed on economic reforms required by international financial institutions, diverting attention away from the misuse and corruption which was the norm when Nigeria was previously flushed with resource wealth).

Id. at 42.

Id. at 45 (“The tragedy is that where bribery becomes acceptable it can be effective, because using your vote to support a party offering public services rather than selling it to the patronage party is not in your individual self-interest.”).

See, e.g., id. (“Indeed, we find that the more ethnically diverse the society, the worse the performance of a resource-rich democracy.”); Rotimi T. Suberu, The Travails of Nigeria’s Anti-Corruption Crusade, in Corruption, Global Security, and World Order 260, 261 (Robert I. Rotberg, ed. 2009) (finding that a “culture of corruption is structurally rooted in the country’s ethnic fragmentation” and an “attendant statism (the sweeping control of the state over the economy) which is aggravated by massive resource wealth”).


Raffinerie, supra note 87, at ¶ 79-92.

Id. at ¶ 28.

Id. at ¶ 92.

See TFEU art. 193 (“The protective measures adopted pursuant to Article 192 shall not prevent any Member State from maintaining or introducing more stringent protective measures. Such measures must be compatible with the Treaties. They shall be notified to the Commission.”).

Raffinerie, supra note 87, at ¶ 1.

Id. at ¶ 2.

Case C-343/09, Aflon Chemical Limited v. Secretary of State for Transport, 2010 E.C.R. Id. at ¶ 1-2.

Id. at ¶ 28, 34.

Id. at ¶ 60–62.

Id. at ¶ 61–64.

TFEU art. 192(4)-(5).

See TFEU art. 11 (stating that sustainable development is a goal of the European Union).

See generally, James R. May, Not at All: Environmental Sustainability in the Supreme Court, 10 SUSTAINABLE DEV. L. & POL’y 20 (2009) (arguing that the status of sustainable development in the United States legal system is currently threatened by the close negative scrutiny of the Roberts’ Supreme Court).

TEU art. 1.

Endnotes: CHINA IN AFRICA: CURING THE RESOURCE CURSE WITH INFRASTRUCTURE AND MODERNIZATION continued from page 41

See id. at 283 (describing how resource wealth can provide a stimulus for a market for manufactured imports and domestic industrial production).

See, e.g., Paul Mitchell, Taxation and Investment Issues in Mining, in ADVANCE THE EITI IN THE MINING SECTOR 27, 27 (Christopher Eads et al. eds., 2009) (finding that tax revenues derived from mining activities represent an important public policy issue and examining the role of tax regimes in development generally).

See generally Collier, supra note 35, at 38-52 (describing the natural resource trap).

Id. at 39-40.

SziRMAI, supra note 4, at 282 (explaining that surplus foreign exchange can be used to “ease bottlenecks in industrial production by importing productive capital goods and intermediate goods”).

See Collier, supra note 35, at 39-40 (citing an example of Nigeria, where “[a]s oil revenues built up, the country’s other exports—such as peanuts and cocoa—became unprofitable, and production rapidly collapsed”).

Id. at 40 (finding that Dutch disease alone was not enough to explain the problems resource-rich countries face).

See id. at 40-41 (exemplifying Kenya and Nigeria as countries which have seen their resource “gravy train come to an abrupt end” and are then faced with drastically reduced revenues).

See id. at 40 (positing that in times of resource wealth booms, “rational public investment is liable to go out the window” and public spending will increase dramatically).

See id. at 40-41 (showing how the economic hardships resulting from the bust of Nigeria’s oil boom in 1986 were easily blamed on economic reforms required by international financial institutions, diverting attention away from the misuse and corruption which was the norm when Nigeria was previously flushed with resource wealth).

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Collier, supra note 35, at 46.
Id. (explaining that in societies where patronage politics are the norm, “democratic politics tend to attract crooks rather than altruists” and it becomes a competition of survival of the fittest, where the most corrupt emerge as winners).

Id. at 50.

See Chihs Alden, China in Africa 14, 38 (2007) (recognizing that over 800 Chinese companies are doing business in forty-nine African countries because “Africa, with its rich natural resources and under-exploited markets” serves as a proving ground for new Chinese international businesses).

Id. at 14.


Id.


Id. at 65 (reporting that “figureines depicting big cats, ostriches, and rhinoceroses” brought to China in 1414 show that this was a two-way exchange of artifacts).

Id. at 66 (stating that China’s early explorations in Africa hit a highpoint in a small window of thirty years where China had been “looking beyond its borders in a manner that would not be repeated for five hundred years”).

Id. at 68 (explaining that Zhou Enlai, “China’s most prominent foreign affairs official of the period” was well-received amid much fanfare; see also JOSEPH CAMILLERI, CHINESE FOREIGN POLICY: THE MAOIST ERA AND ITS AFTERMATH 99, 1980) (relating that Zhou reiterates in every African capital that the struggle for political independence would have to incorporate a policy of economic self-reliance stressing “correct leadership”, “relying on the strength of the masses” and careful utilization of natural resources”).


CAMILLERI, supra note 64 at 94.

See id. at 99-100 (listing a number of projects financed and technical assistance given by China starting in 1964).

ROBINSON & SHABBAUGH, supra note 65 at 287 (recounting that the Tan-Zam Railroad was undertaken as a “direct contribution to the liberation cause” as a way of striking at European power).

See id. at 310 (noting that the repayment of the $500 million price for the Tan-Zam railroad has been postponed a number of times); MICHEL & BEURET, supra note 61, at 68 (relating that “60 of the 50,000 Chinese who built the eighteen tunnels and forty-seven bridges died” but that the completed railroad demonstrated China’s growing technical prowess); but see Ioannis Gatsiounis, China Biggest Beneficiary of Its African Largess, THE WASHINGTON TIMES (Mar. 9, 2012), http://www.washingtontimes.com/news/2012/mar/9/china-biggest-beneficiary-of-its-african-largess/ (reporting that by 2008 the Tanzam railroad was “on the verge of collapse due to financial crisis”).

See ROBINSON & SHABBAUGH, supra note 65, at 287 (remarking that the railroad was intended to enable Zambia to be used as a base for guerillas fighting white regimes in Eastern and South Africa, as much as it was intended to loosen the European grip on regional economics); CAMILLERI, supra note 64, at 100 (relating that the Chinese reserved their “most substantial assistance to those countries whose policies were opposed to the existing international order”).

MICHEL & BEURET, supra note 61, at 68-69 (explaining how the change in Chinese politics led to a readjustment toward “healthy development of the economic and commercial relations with Africa” (quoting YUAN WU, CHINA AND AFRICA, 1956-2006, at 51-52 (2006)).

MICHEL & BEURET, supra note 61, at 69-70 (citing RONALD MARCHAL, AFRIQUE-ASIE: USE AUTRE MONDIALISATION? (2008)).

Id. at 69 (observing that Africa was an obvious place to start to “reemerge from the resultant ostracism by the international community”).

See id. (noting the common bond that African leaders faced with “the emergence of a stronger democratic movement” worked to strengthen ties with China).

See id. at 20-21 (relating a conversation with a Chinese diplomat who noted that the Cold War drove investment in an ideological manner, but that the end of the Cold War marked a turning point where “[China’s] aid would no longer be as one-way as it had been before, that it would have to become mutually beneficial”).

Id. at 69-70 (imparting how Western involvement, making democracy a precondition for financial aid, is often viewed in a negative light, especially in the Chinese narrative)

Id. at 8 (recounting how President Hu Jintao’s visits invoke the rhetoric of freeing “his African brothers” from the “bitter Washington consensus” (privatization, democratization, governance) with a much sweeter Beijing consensus).”


Id. (reporting that commodity prices had fallen by thirty-eight percent in the second half of 2008 alone and that prices for commodities such as copper and oil remain extremely volatile).

MARTYN DAVIES, OECD Development Centre, “How China is Influencing Africa’s Development, at 9 (Apr. 2010), http://www.oecd.org/dataoecd/34/39/45068325/pd\textit{}it\textit{}ing\textit{}Pr\textit{}ec\textit{}e\textit{}n\textit{}t\textit{}s\textit{}Ho\textit{}u\textit{}s\textit{}e\textit{}\textit{}\textit{}Co\textit{}o\textit{}rs, \textit{}J\textit{}u\textit{}n\textit{}e\textit{} M\textit{}i\textit{}n\textit{}e\textit{} S\textit{}u\textit{}r\textit{}e\textit{}y\textit{} (Feb. 2009)).

Id. (relating that prior to the crisis Africa had committed to 2361 infrastructure projects, but only 1114 projects continued in 2010, a reduction of 52.8%).


Id. (“The sovereign nature of Chinese capital deployment in the global economy is enabling Chinese financial institutions to allot capital in this so-called ‘counter-cyclical’ fashion.”).

Id. at 9-10 (listing main actors from the policy bank sector to include the China Export-Import (“EXIM”) Bank, the China Development Bank through its recently launched China-Africa Development Fund, China Construction Bank, and the Industrial Commercial Bank of China (“ICBC”).


MICHEL & BEURET, supra note 61, at 175.

Id. (emphasis added).

Id. at 178.


See MICHEL & BEURET, supra note 61, at 175 (asserting that China is forced into a tough position because it is “at the back of the line when the oil companies are dividing up Africa,” and that getting a “fair share [for China] can be difficult, particularly when [it has] no former colonial ties on which to draw.”

See, e.g., id. at 176 (noting Chinese oil exploration in various African countries, while the “West was busy locking up as much of the Gulf of Guinea as possible”).

AFDB, supra note 89, at 1 (stating that “Chinese firms are generally less averse to risk than their Western counterparts”); see also MICHEL & BEURET, supra note 61, at 178 (describing how, only two months after an attack killed nine Chinese in Ethiopia, a Chinese oil company signed a contract to prospect oil “among the many battlefields of Somalia–without the knowledge of the Somali prime minister”); China trying to mediate oil impasse between Sudan, South Sudan, again stepping up Africa role, ASSOCIATED PRESS (Dec. 7, 2011), http://www.washingtongpost.com/world/middle-east/china-trying-to-mediate-oil-impasse-between-south-south-sudan-stepping-up-africa-role-2011/12/07/ g0QAXVZloC_story.html (relating that China has close relationships with both North and South Sudan where it has recently entered into disputes to moderate between the two countries and assure the flow of oil continues).

AFDB, supra note 89, at 4.


Davies, supra note 80, at 16 (noting that mining operations are to begin in 2013); Richard Mills, Cobalt and Other Critical Raw Materials, RES. INVESTOR (June 23, 2011), http://www.resourceinvestor.com/News/2011/6/Pages/Cobalt--Other-Critical-Raw-Materials.aspx (relating that the deal gave China “rights to the vast copper and cobalt resources of the North Kivu”).

Mills, supra note 95.

ANTOANETTA BECKER, TO DR CONGO, WITH TROUBLE, ALLAFRICA.COM (May 10, 2010), http://allafrica.com/stories/201005101838.html (reporting that a commission of the National Assembly of the DRC is investigating).

Davies, supra note 80, at 11.

See id. (referring to a 2005 Chinese Government foreign policy White Paper which encourages the concession model of investment).
approach (commenting, as well, that “the easing of rules that protect workers and limit political kudos from their completion”).

2. Davies, supra note 80, at 26 (Working Paper No. 128, May 2011) (contending that with increasing pressures on public finances, African states are focusing on other sources of funding such as public-private partnerships to create infrastructure).


5. Id. at vi.

6. See, e.g., Gatsiounis, supra note 69 (reporting that “many Chinese projects use Chinese labor and materials, minimizing skills transfer and stunting local production”); but see Davies, supra note 80, at 21 (positing that such insulation from African labor may be due to the interests in rapid completion of projects “which have delivery dates often determined by government seeking the political kudos from their completion”).

7. See, e.g., Gatsiounis, supra note 69 (citing the near collapse of the Tanzam railroad as an example of how, in Chinese investment, “the host partner often lacks the culture of maintenance and funds to sustain [the project]”).

8. Davies, supra note 80, at 10.

9. THE ECONOMIST, supra note 59 (remarking that much of this diversification is occurring at the request of African states themselves).

10. Paola Bellabona and Francesca Spigarelli, Moving from Open Door to Go Global: China Goes on the World Stage, 1 Int’l J. Chinese Culture and Mgmt 93, 94 (2007), http://www.inderscience.com/storage/6612117382451910.pdf (“Go Global! is the slogan with which the Chinese authorities, since 2000, have been encouraging local enterprises to invest abroad (emphasis in original)”; contra Davies, supra note 80, at 24 (stating that the Go Global strategy was announced in 2002)).

11. AFDB, supra note 89, at 1 (commenting that Go Global’s “main features are consistent with China’s general policy, which is aimed at lessening its energy and other natural resource constraints and increasing outlets for its manufactured products”).

12. Davies, supra note 80, at 24 (contending that the FDI represented by the Go Global strategy is “likely to rise as Chinese firms seek to offset protectionist sentiment that is rising during the global economic crisis”).

13. Id.

14. AFDB, supra note 89, at 1 (suggesting that successful SEZs will establish “a framework for collaboration that includes engagement from host governments, processes for phasing-in local control, communication and enforcement of standards, and support for integration with local economies”).

15. Id.

16. See SHIRMAM, supra note 4, at 282 (relating how forward and backward linkages associated with extractive industries can be used to encourage sustainable economic development by creating structural changes in an economy toward a more diverse industrial sector).

17. Davies, supra note 80, at 27.

18. Ron Sandry & Hannah Edinger, World Bank, China’s Manufacturing and Industrialization in Africa, at 26 (Working Paper No. 128, May 2011) (commenting, as well, that “the easing of rules that protect workers and limit negative externalities from investment may cause neighboring countries to lower their own standards” resulting in a “race to the bottom”).
Endnotes: SHINING SUN AND BLISSFUL WIND: ACCESS TO ICT SOLUTIONS IN RURAL SUB-SAHARAN AFRICA THROUGH ACCESS TO RENEWABLE SOURCES
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54 A local NGO and Telecom Namibia collaboratively created, Xnet Development Trust, which provides affordable Internet access to various social sectors like, education, health, and agriculture; The Namibian Ministry of Education developed TECH/NA!, which provides “educational institutions with hardware, software,” Internet and technical support, as well as, education for “administrators, staff, teachers, and learned in ICT literacy” Shafika Isaacs, Survey of ICT and Education in Africa: Namibia Country Report, InfoDEV. org (2007), http://www.infodev.org/en/Publication.420.html; however programs have not proven effective as seen with SchoolNet Namibia. A not-for-profit civil society organization intended to provide “sustainable, affordable open source technology solutions and Internet access ... to schools” and other education-based organizations throughout Namibia, but has “failed because of mismanagement by the Ministry of Education and a lack of vision inside the ministry” Anooglu Gaqri, Namibian ICT State Shocking, NAMIBIAN SUN (Oct. 21, 2011), available at http://www.namibiansun.com/content/link/namibian-ict-state-shocking.

55 See Namibia, supra note 50 (acknowledging Namibia’s formal independence as 1990).


57 Interview with Minister of Information and Communication Technology Joel Kaapanda.

58 AFRICA MOBILE OBSERVATORY: DRIVING ECONOMIC AND SOCIAL DEVELOPMENT THROUGH MOBILE SERVICES, supra note 3, at 34.

59 Interview with Vestas Vice President of Communications Andrew Hilton, VESTAS CENTRAL EUROPE, (Nov. 8, 2011).

60 Africa Mobile Observatory: Driving Economic and Social Development through Mobile Services, supra note 3, at 38.


62 Id. at 38.


66 AFRICA MOBILE OBSERVATORY: DRIVING ECONOMIC AND SOCIAL DEVELOPMENT THROUGH MOBILE SERVICES, supra note 3, at 37.

67 Akinola, supra note 4.

68 Id.

69 Id.

70 Ghana’s Infrastructure: A Continental Perspective, supra note 35, at 37.


72 Id.

73 Atkins, supra note 2.

74 R.B. Hiremath et al., supra note 71, at 4-10.

75 Id.


78 Id.


82 Id. at 2.


84 Id.

85 R.B. Hiremath et al., supra note 71, at 4-10.

86 Id.

87 Id.

88 Id.

89 Kahare, supra note 72.