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The Role of China and the U.S. in Managing Ghana's Nonrenewable Natural Resources for Inclusive Development

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The Role of China and the U.S. in Managing Ghana's Nonrenewable Natural Resources for Inclusive Development

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Introduction

The influence of the United States in the world is undoubted. The U.S. plays a major role in global economic and political governance, and its relationship with Africa is cherished, especially after the introduction of the Millennium Challenge Account program. On the other side of the globe, China, in the past few decades, has grown in dominance in the global economy and continues to sustain record growth. Now, China is the world's second largest economy after 30 years of fast-paced economic growth (Lawrence & MacDonald, 2012). China's population is estimated to increase by approximately 123 million people by 2025 from a population of 1.3 billion people in 2008. However, it is feared that without sufficient minerals and natural resources coupled with sufficient economic growth, China will fail to meet its economic and social demands according to 2008 United States Census Bureau data (Butts & Bankus, 2009). The Chinese economy has been growing between 7 and 10 percent since the 1980s and has been doubling every decade. For China, maintaining this level of growth is imperative for keeping a grip on governance and shifting from inefficient, state-controlled industries (Butts & Bankus, 2009). Thus, like the U.S., an increase in economic growth in China means more demand for nonrenewable natural resources.

There have been several bilateral relationships between the U.S. and African countries, and, recently, bilateral ties between China and African countries have intensified. The U.S. and China maintain a bilateral relationship, which has expanded to encompass a broad range of global, regional and bilateral issues. The United States seeks China's cooperation in rebalancing the global economy and reigniting global growth. Therefore, to achieve these goals, both countries seek many of their mineral supplies from Africa (Sprance, 2008). Africa has been a reservoir of natural resources for several decades, and the recent discovery of oil in a number of African countries introduces new dynamics to the natural resource discussion.

The United States considers Africa as global partner, especially since it derives about 16 percent of its oil imports from the continent (Sprance, 2008). It is important to note that the strategic interests of the U.S. in Africa also transcend oil and other resources to include, but not limited to, preventing the spread of terrorism, strengthening good governance and democratic values, increasing trade, and addressing global health and environmental challenges.

Similarly, China has increased its presence in Africa for strategic reasons. The country seeks three things from Africa, namely, unimpeded and virtually exclusive access to natural resources, new markets for its export-driven economy, and increased influence among global political allies. There have been some positive outcomes emanating from these key strategic interventions by the Chinese government but these outcomes depend largely on clear government policy. Some examples of policy interventions are support for African commercial ventures, financing and tax rebates for Chinese firms operating abroad, and improved and better diplomacy towards the continent (DeLorenzo, 2007).

The quest for oil drives China's minerals and natural resource policy with Africa. In January 2006, China announced its desire to improve its cooperation with African countries. This desire was laid out in its white paper on China-Africa economic trade and cooperation, which is intended to guide relations with the continent by sticking to a "noninterventionist and non-ideological strategy" (AFRODAD, 2010). Even though China has received about 10 percent of her energy needs from Africa since 2006, the country still has energy security issues, with estimates showing that between 2002 and 2025, China's share of global fossil fuel consumption will increase between 7 and 12 percent (Kirchick, 2007).

These current trends have led to the evolution of the policy documents and the subsequent massive investment in Africa's natural resource exploration and management. Against this backdrop, China has invested heavily in several African countries including Nigeria, Sudan, Angola, Chad, Gabon, Mauritania, Kenya, Republic of Congo, Equatorial Guinea and Ethiopia for the exploration and extraction of oil resources (Timberg, 2006). Indeed, there are a lot of other natural resource endowments that China has exploited in Africa over the years. China is actively acquiring the strategic minerals cobalt, chrome and platinum from the Democratic Republic of Congo, Zambia, Zimbabwe and South Africa (Lee, 2006;).

If the relationship between these two giant economies can be extended to Africa, the new trilateral relationship can help enormously in ensuring that the extraction of nonrenewable natural resources is accomplished in an efficient manner and that greater benefits are achieved. However, the extent that this trilateral relationship can be developed and the benefits thereof have yet to be investigated, which raises the following questions:

- What challenges does the government of Ghana face in seeking to effectively manage nonrenewable natural resources and improve state services while navigating the interests of outside powers from the U.S. and China? Do these interests differ from country to country in Africa?
- What are the approaches of the corporate bodies from China and U.S. in the nonrenewable natural resources sector in Ghana and Africa as a whole?
- What negative or positive impacts do these corporate bodies' approaches have on the development of Ghana and which of them do policymakers engage?
- Would coordination between the U.S. and China on issues such as natural resource extraction be beneficial in meeting economic development goals?

This study seeks to examine the trilateral relationship between the United States, China and Ghana on the management of nonrenewable natural resources. It specifically seeks to examine the engagement of the U.S. and China on the topic of nonrenewable natural resources (exploitation and management) in Ghana and Africa in general and the implications thereof.

Data that informed the analysis of the paper were derived from secondary sources (existing literature) and primary sources through interviews with personnel at the Ghana Chamber of Mines, Ghana Chamber of Commerce and Ghana Investment Promotion Centre.

The following sections of the paper look at Ghana's management of natural resources from a historical perspective (section 2) and compare the American and Chinese firms working in the sector in Ghana (section 3). Given the lessons learned from the historical perspective and knowledge about U.S. and Chinese firms, the authors address the implications for natural resource management (section 4) and conclude with policy recommendations (section 5).

Ghana's Nonrenewable Natural Resources

Ghana is endowed with large reserves of natural resources, both renewable and non-renewable. Renewable natural resources include agricultural land, wetlands, forest and forest land, fresh and salt water fisheries, and surface and underground water resources. Nonrenewable resources endowments include the mineral ores (gold, diamonds, bauxites and manganese) and petroleum. These nonrenewable natural resources, especially the mineral ores, have been the bedrock of Ghana's economic development for many years through revenue generation (GHEITI, 2009).

The extraction of mineral resources in Ghana is an age-old phenomenon. The country extracted an estimated 80 million ounces of gold between the first documentation of gold mining in 1493 up to 1997 (Kesse, 1985; Ghana Chamber of Mines, 1998). Ghana accounted for about 36 percent of total world gold output (8,153,426 ounces) between 1493 and 1600 (Tsikata, 1997). Indeed, Ghana has been an important player in mineral extraction and at one time was the second-largest gold producer in Africa, the third-largest African producer of aluminum metal and manganese ore, and a significant producer of bauxite and diamonds (Amponsah-Tawiah & Dartey-Baah, 2011).

Ghana's minerals have been an important source of foreign exchange since independence in 1957. In an attempt to provide employment, to control the rate of extraction and to generate foreign exchange, the state controlled the mining industry from 1957 to 1986 by owning over 55 percent of shares in the major mining companies (Tsikata, 1997). However, inadequate macroeconomic policies during the 1950s up to the 1980s, including an overvalued exchange rate, diminished the funds available to maintain and restructure the mining industry (Aryeetey, Harrington & Nissanke, 2000). The mining industry faced undercapitalization and low efficiency due to poor management, lack of technical deficiencies and weak mining skills. During this period, gold extraction was very low, decreasing from 915,317 ounces in 1960 to the lowest level of 287,124 ounces in 1986 (Akpalu & Parks 2007). The inception of the Economic Recovery Programme (ERP) in 1986, however, reignited the mining industry leading to phenomenal growth (Aryee & Aboagye, 1997). ERP resulted in a shift from state ownership to liberalization, deregulation and privatization of the mining sector. Hence, government's main objective at the commencement of the ERP was to quickly attract investments into the mining sector, along with other key sectors that had export potential, to help turn around the general economy of the country. Thus, measures were taken to optimize the national revenue including the promulgation of the Mineral and Mining Law of 1986 (PNDCL 156), which was later amended into Mineral and Mining Act 1994 (Act 476) to make special provisions for taxation (GHEITI, 2009).

Significant investment in the mining sector took place between 1983 and 1998, especially the astronomical increase in foreign direct investment (FDI) from $12.8 million in 1986 to $83 million in 1998 (Addy, 1998). This investment led to an trend of an increase in production: gold production, for instance, overtook the 1960 peak levels and reached a record high of 2,481,635 ounces by 1998 (Aryee, 2001). Diamond extraction also increased from 717,738 carats in 1996 to about 1,090,072 carats in 2001, and bauxite production significantly increased from 383,370 metric tons in 1996 to a record high of about 678,449 metric tons by 2001. The production of manganese also increased astronomically from 266,765 metric tons in 1996 to about 1,076,666 metric tons in 2001 (ISSER, 2011). These high production levels propelled the dramatic rise in Ghana's export earnings from 1992 to 2001.

In 2007 Ghana discovered oil and gas in commercial quantities in the Jubilee fields in the Western region of the country. Production of crude oil from the Jubilee fields started in November 2010 with 25,000 barrels of oil per day, increasing to 80,000 barrels per day by October 2011, however, this number was far below the projected figure of 120,000 barrels a day (GNPC, 2012). By October 2012, produced crude oil from the Jubilee fields had totaled over 46 million barrels. In 2012, a total quantity of 3,936,388 barrels was lifted with a net value of $433,212,905.10 (GNPC, 2012). Production from the Jubilee fields is expected to reach 120,000 barrels of oil per day in the first half of 2013 due to the expansion of Jubilee phase one plan through the drilling of additional eight wells and the installation of additional subsea facilities (GNPC, 2012). Aside from the Jubilee fields, 16 new oil fields have been discovered offshore of Ghana and are at different stages of appraisal and development.

Natural Resources and Governance

The mining sector in Ghana received priority attention under the ERP in 1983 (Aryee & Aboagye, 1997). Specific sector policy reforms and institutional development to promote investors' interest and confidence were initiated at that time (Amponsah-Tawiah & Dartey-Baah, 2011). These reforms included the repeal of the Mineral and Mining Law 1986 (PNDCL 153), which was replaced by the Mineral and Mining Act in 2006 (Act 703), and the introduction of the Internal Revenue Act (Act 592). This act offered special tax provisions and favorable incentives to the mining industry (GHEITI, 2009). Also, the establishment of the Minerals Commission in 1993 (Act 450), the promulgation of the Minerals and Mining Code of 1986 (PNDCL 153), the institutionalization of the Small Scale Mining Law in 1989 (PNDCL 218) and the establishment of the Environmental Protection Agency (EPA) in 1994 were all geared towards boosting the mining industry in Ghana.

At present, myriads of environmental and social standards have been fashioned by the Ghanaian government to shape economic activities within the policy environment. These standards are enshrined in the following documents and instruments: the National Environmental Policy of Ghana, which is complemented by the Environmental Protection Agency Act, 1994 (Act 490); Environmental Assessment Regulations, 1999 (L.I. 1652); the Forestry Commission Act, 1999 (Act 571); Ghana's Mining and Environmental Guidelines, 1994; Operational Guidelines for Mineral Exploration in Forest Reserves for Selected Companies, 1997; Environmental Guidelines for Mining in Production Forest Reserves in Ghana, 2001; Guidelines for the Preparation of Feasibility Study Reports, 2009; Mine Closure and Post-closure Policies; Guidelines for Corporate Social Responsibility in Mining Communities; and Compensation Policy and Regulations (a draft of the National Mining Policy of Ghana). In addition, other guidelines are under development to improve the standards of environmental stewardship and sustainable development.

Institutionally, the EPA; Ministry of Environment, Science and Technology; Ministry of Finance, Ministry of Lands and Natural Resources; Ghana Revenue Authority; Bank of Ghana; Minerals Commission; Forestry Commission; Water Resources Commission; Lands Commission; Administrator of Stools Lands; District Assembly; Ghana Chamber of Mines; Ghana Investment Promotion Centre; traditional rulers; Ghana Immigration Service; and others have oversight responsibility in regulating the mining sector in Ghana.

With respect to the petroleum sector, the primary oversight responsibility rests with the Ghana National Petroleum Corporation, the Petroleum Commission and other state institutions. The legislative instruments shaping the operations in the petroleum sector are the Ghana National Petroleum Act 1983 (PNDCL 64), Petroleum Income Tax Law 1987 (PNDCL 188), and Petroleum Revenue Management Act 2010 (Act 815).

The structure of Ghana's nonrenewable natural resources industry appears pyramidal: A few large companies occupy the apex with numerous small scale players lay at the base. About 85 percent of the natural resources industries in Ghana are owned by foreigners while the rest are owned by the government of Ghana and several small-scale Ghanaian operators. Small-scale mining is restricted to nationals (Akabzaa & Darimani, 2001). Table 1 below displays the big players, including oil exploration and extraction companies, in the natural resources sector.

Table 1: Major Mineral Producing Companies in Ghana

Company	Location	Natural Resource
Anglo Gold Ashanti	Obuasi, Ashanti region	Gold
Anglo Gold Ashanti	Iduaprim, Western region	Gold
Abboso Goldfield Ltd	Damang, Western region	Gold
Central African Gold	Bibiani, Western region	Gold
Chirano Gold Ghana Mine	Chirano, Western region	Gold
Goldfield (Ghana) Ltd	Tarkwa, Western region	Gold
Golden Star Resources (Wassa) Ltd	Akyemprim, Western region	Gold
Golden Star Resources (Prestea/ Bogosu) Ltd	Prestea/ Bogosu, BrongAhafo region	Gold
Newmont (Ghana) Ltd	Kenyasi, Brong-Ahafo region	Gold
Ghana Manganese Ltd	Nsuta, Western region	Manganese
Ghana Bauxite Company Ltd	Awaso, Western region	Bauxite
The Great Consolidated Diamond Ghana Limited (GCDGL)	Akwatia (Eastern region)	Diamond
Kosmos Energy	Western region	Crude Oil
Tullow Oil Plc	Western region	Crude Oil
Vanco Energy	Western region	Crude Oil

Lukoil	Western region	Crude Oil
Hess Exploration	Western region	Crude Oil
Vitol Upstream	Western region	Crude Oil
Tap Oil	Western region	Crude Oil
Oranto Oil	Western region	Crude Oil
Lusheternit	Western region	Crude Oil
Afren Plc.	Western region	Crude Oil

Source: GHEITI, 2009 and GNPC, 2012.

The landscape of the United States' and China's operation in the nonrenewable natural resources' sector in Ghana[1]

This section tracks the trajectories that American and Chinese corporate bodies pursue in their engagement in the nonrenewable natural resources sector in Ghana. It also examines the nuanced political strategies used by each country to influence the nonrenewable resources sector. An understanding of the features of the entrepreneurial activities of these corporate bodies from the two countries is imperative for Ghana as it strives to develop.

Fundamentally, there are a few similarities between American and Chinese corporate bodies in the nonrenewable natural resources sector in Ghana. The U.S. and China are both nonrenewable natural resource-seeking countries because of their burgeoning economies. Second both countries export the nonrenewable natural resources from Ghana and Africa as a whole unprocessed or in the raw form. The manifold disparities between the corporate entities from the U.S. and China in the nonrenewable natural resources sector are below.

<u>Scale or Size of Corporate Bodies and Value</u>

A prominent difference among the firms from the U.S. and China operating in the nonrenewable natural resources sector in Ghana is differentiated sizes of the firms. Characteristically, the firms from the U.S. are large multinational companies and few in number. On the other hand, the firms from China are very small in size, mostly owned by individuals and very profuse. Indeed, the totality of Chinese firms in Ghana outweighs those from the United States. However, in terms of value, U.S. firms are dominant compared to the Chinese firms. For example, while China topped the list of registered projects (56) in 2012 compared with 17 from the U.S., in terms of FDI value, the U.S. was third ($500 million) while China was seventh ($67.88 million) (GIPC, 2013).

<u>Operational Focus of Corporate Bodies</u>

Another distinguishing feature between the corporate bodies from U.S. and China in the nonrenewable natural resources sector in Ghana is their disparate foci. The diversity in operations is informed partially by their scales. Large American corporate bodies focus

[1] Analyses in sections 3, 4 and 5 have been informed by the inputs from personnel at the Ghana Chamber of Mines, Ghana Chamber of Commerce and Ghana Investment Promotion Centre.

primarily on the exploration and extraction of mineral resources on a large scale in the country. By virtue of their small scale, Chinese corporate bodies are unable to embark on large mineral exploration and extraction. Rather, these corporate bodies focus extensively on providing services, to the big corporate bodies in the extractive industry. The service provisions by Chinese corporate entities are, however, bedeviled with illegalities because most of them provide services to small-scale miners, contrary to the rules and regulations in Ghana: The rules and regulations in Ghana are very explicit regarding the non-involvement of foreigners in the small-scale mining process, whether directly or indirectly. However, Chinese companies that harbor the intention of going into this illegal undertaking usually register with the Ghana Investment Promotion Centre (GIPC) under the guise to offer services to either the construction industry or large-scale miners, but end up operating in the small-scale mining sector. The destructive nature of these illegal mining activities is very pervasive and has grown in proportion over the years in the Ashanti, Eastern, Central and Western Regions, which are considered the mining enclaves of Ghana. The most devastating effects of these illegal mining activities (popularly known in Ghana as "galamsey") include the destruction of rivers and streams, which serve the water consumption needs of both urban and rural dwellers. For instance, sections of major rivers such as Ankrobra, Bonsa, Pra, Offin, Butre and Birim have been polluted as a result of dredging by the "galamsey" operators and the use of toxic mercury and cyanide (Masahudu, 2013). Boxes 1 and 2 encapsulate media stories on the dynamics of the illegal mining activities in Ghana.

Box 1

Rivers, Ponds Sold to Chinese Miners

"It has emerged that some Ghanaians have claimed ownership of rivers and ponds, and sold them out to Chinese illegal small scale miners for their activities. Mr. Stephen Piadu, Chief Inspector of Mines revealed this when the Minister of Lands and Natural Resources, Alhaji Inusah Fuseini paid a day's visit to the Minerals Commission of Ghana, on Monday. This has resulted in the massive pollution of some water bodies in the country, thus putting the lives of consumers of these water bodies in danger."

"He therefore, made a passionate appeal to Alhaji Inusah Fuseini to use his good offices to investigate the issue. On his part, the minister said foreigners were not allowed under the country's laws to engage in small scale mining and, pledged to join the fight against illegal mining in their respective areas," (Zangina-Tong, 2013).

Box 2

Five Chinese Galamsey Operators Arrested

"Five Chinese illegal small scale miners (galamsey operators) were arrested by the Eastern Regional Police Command at Sarkonadese in the Atiwa District at the weekend. The five whose names were given as Han Jun, 38, Meng Guang Heng, 64, Lu Hibo, 42, Zhang Bao, 30 and Xia Zhi, 50, were arrested at the camp where they had built houses and mounted their mining equipment. Nine others whose identities are not yet known are currently on the run. The unannounced swoop was embarked upon following a tip off the Police received from an informant. The police also seized mining equipment which included generators, a pay loader and three excavators," (Ghana News Agency, 2013).

Compliance and Noncompliance of Established Rules and Regulations

The Ghanaian government's policy is to create an enabling environment for investors. In return, all investors are to respect the laws of the sectors in which they engage. Unfortunately, investors from the U.S. and China are different as far as complying with the laws in the nonrenewable natural resources sector is concerned. While American firms strictly adhere to the laws, many Chinese corporate organizations have defaulted. It is, however, important to point out that all illegal activities undertaken by Chinese firms, especially in the mining sector, are done in close collaboration with an individual Ghanaian or a group of them. A recent example, testifying to this illegal collaboration, is the case of the Hansol Mining Company. Not only did this company obtain a loan and heavy machinery from Chinese investors for the small-scale mining activities, but the Chinese were also involved in the mining activities until the Ghana Immigration Service arrested them.

In the wake of the upsurge in the "galamsey" activities by some Ghanaians and Chinese, the President of the Republic of Ghana John Dramani Mahama recently inaugurated a five-member high-powered Inter-Ministerial Taskforce to get rid of Ghanaians and non-Ghanaians perpetrating illegal mining activity in the country (Musah, 2013). This taskforce includes: Chairman Alhaji Inusah Fuseini, the minister of lands and natural resources; Kwesi Ahwoi, the minister of the interior; Mark Woyongo, the minister of defense; Hannah Tetteh, the minister of foreign affairs and regional integration; and Joe Oteng-Adjei, the minister of environment, science, technology and innovation. The mandates of the taskforce include working in close collaboration with the country's security forces (military and police) to arrest and prosecute Ghanaians and foreigners engaged in illegal mining as well as deport foreigners involved in the illegal act; ensure the strict and full enforcement of laws on small-scale mining; seize equipment used by those who fail to comply with new directives for obtaining or renewing licenses; and revoke the licenses of Ghanaians who have subleased their concessions to foreigners and those who have engaged the services of non-Ghanaian miners in the small-scale mining sector in ways that are contrary to the rules. In addition, the taskforce has been empowered to assess the effectiveness of the metropolitan, municipal and district chief executives (MMDCEs) and their respective District Security Committees (DISECs) in the removal of any illegal mining activity in their areas of jurisdiction. The outstanding feature of the taskforce is its all-encompassing nature—it comprises of institutional structures at the national, regional and local levels taking into account the involvement of sectoral ministers, regional ministers and MMDCEs.

At the bilateral level, two important meetings have been held between the government of Ghana and two separate delegations from the Chinese Ministry of Foreign Affairs and from the Guangxi province in April 2013 and May 2013, respectively. In the meeting between the representatives of the government of Ghana and the Chinese Ministry of Foreign Affairs, parties resolved to establish a high-powered working committee to examine the circumstances that underpin the influx of illegal Chinese miners to Ghana in order to fashion out an integrated roadmap to bring an end to the situation (Wereko, 2013). The second meeting took place between the delegates of Guangxi province and the country's Inter-Ministerial Taskforce on illegal mining. Guangxi has been identified as the province from which the majority of the illegal Chinese miners in Ghana hail; thus, delegates from the Guangxi province requested the meeting with the taskforce to examine possible solutions to halt the problem of the illegal small-scale mining by a considerable number of Chinese in Ghana (Bonney, 2013).

Diversity in National Approaches

Politically, United States and China are adopting different approaches to influence the nonrenewable natural resources sector in Ghana. While the U.S. concentrates on supporting the building of strong institutions and democratic governance, China's approaches include the building of physical infrastructure and, very recently, the lending of loans. For instance, Ghana recently received a $3 billion loan from the China Development Bank (CDB) to develop oil and gas infrastructure. One of the measures to redeem this loan is the allocation of some quantity of the oil and gas resources from Ghana to China. The loan disbursement is in two tranches. Each tranche is $1.5 billion with different terms. The servicing of the first tranche of this loan encompasses a five-year grace period, 15-year repayment period, commitment fee of 1 percent flat rate, an interest rate of 2.95 percent and six months LIBOR (London Inter-Bank Offer Rate) and an upfront fee of 0.25 percent flat. The second tranche is allotted a grace period of five years, 10-year tenure interest rate of 2.285 percent and six months LIBOR, 0.25 percent upfront fees per annum and a commitment fee of 1 percent per annum (*Ghana Business News*, 2013). The repayment terms include Ghana's commitment to sell oil to China to offset the loan. In other words, the Ghana National Petroleum Company must commit to sell oil to the Chinese off-takers.

Implications and Lessons Learnt

Several implications and lessons emanate from the disparate engagements of U.S. and Chinese firms in the nonrenewable natural resources sector in Ghana and Africa as a whole. While Ghana and the African continent stand to benefit immensely from increased investment from both countries in the sector, unequivocally, certain risks and challenges are inevitable, and therefore need to be circumnavigated or addressed.

The existence of the two powerful countries in the nonrenewable natural resources sector in Ghana brings pluralism and enables healthy competition in the sector. This competitive spirit takes away the possibility of monopoly and gives the country the leverage to negotiate and bargain for better economic deals for these natural resources.

Economic complementarities are derived between Ghana and the two countries, especially in the dimensions of market opportunities, job creation and revenue generation for Ghana. The U.S. and China can use the resources to fortify their economies. Although very minimal, this trilateral relationship enhances technological and human capacity development in Ghana.

The benefits notwithstanding, this trilateral relationship is engulfed with myriads of challenges. Particularly the proliferation of illegal small-scale mining activities and the supply of services to the small-scale miners by some Chinese mining enterprises are very worrisome. It has been realized that the small-scale nature of Chinese enterprises is one of the reasons they are able to indulge in these illegal acts. Apart from destroying the environment through utter disregard for the laws, these illegal activities also lead to the loss of revenue for the nation through tax invasion.

It has also been realized that in Ghana and other African countries such as Angola and Zambia, the importation of Chinese labor force and the use of predominantly unskilled instead of skilled labor force from Africa are some of the hallmarks of Chinese companies (Kamwanga, Koyi & Bwalya, 2009). The defects of this approach include the downsizing of the recruitment of indigenous skilled labor, which goes a long way in diminishing local technical capacity development. According to Baah, Otoo, & Ampratwurm (2009), "Chinese investors use Chinese labour in most of the infrastructure projects that are financed by China and for which the skill requirements are relatively higher. For example, as many as 150 Chinese ‘experts’ were employed in the construction of Essipon Stadium in Sekondi-Takoradi which was financed by China." Also, as of July 2008, in the course of constructing the Bui hydroelectricity dam project in Ghana by SinoHydro Corporation Ltd. of China, there were 560 and 110 Ghanaians and Chinese employees, respectively (Baah et al., 2009). Even though the Ghanaian employees were more than the Chinese, it became clear that most of the Ghanaian workers were unskilled and primarily undertook the construction of temporary structures (ibid). Moreover, in Angola, the construction of the Kilamba Kiaxi social housing project, the largest social housing project in that country, is replete with evidence of the great use of Chinese employees in Africa by companies with China orientation. Accordingly, as of 2011 there were about some 10,000 Chinese workers compared with 5,000 Angolan workers in this project (Bingfei, 2011).

In addition, the high interest of these two countries in nonrenewable natural resources limit to some extent economic diversification in Ghana and that can, in turn, create Dutch disease problems in the economy. Currently, much attention from investors is geared towards the oil and gas resources to the neglect of other equally important sectors that need to be developed to increase exports to boost economic growth.

Another critical lesson learned in this paper is the facilitating role played by citizens of Ghana in fomenting the illegal extractive activities undertaken by some Chinese companies. Small-scale mining can only be undertaken by Ghanaians, by law. However, leases are acquired by Ghanaians and are either subleased to Chinese companies or illegally involve Chinese experts in the activities.

Conclusions and Policy Recommendations

In sum, findings in this paper reveal that evidence abounds testifying to the benefits and costs associated with the activities of the U.S. and Chinese corporate bodies, especially in the nonrenewable natural resources sector in Ghana and, by extension, Africa. It is therefore imperative that Ghana and other African countries position themselves in a bid to consolidate the gains emanating from this trilateral relationship and to circumnavigate the challenges for enhanced and inclusive development. Achieving such win-win situation demands changes within the policy landscapes and internal social dynamics in Ghana, U.S. and China.

Against that backdrop, the following policy recommendations are advanced in this paper:

- *Sustainability features should be added to inter-ministerial taskforce.* Although the Inter-Ministerial Taskforce is in full operation at the moment, it is imperative to instill sustainability features into it. Often times, such committees become moribund when the supply of supportive logistics is sporadic or certain key actors fail to discharge their duties properly. The complex nature of the illegal small-scale mining in Ghana, however, is an indication that nothing short of a resolute taskforce with a sustained monitoring approach can nip it in the bud. Thus, in order to ensure the sustainability of this taskforce, the government of Ghana should take pragmatic steps to establish a Mineral Revenue Fund, part of which will be used to finance the Taskforce's activities. In addition, the Taskforce should be independent and devoid of political interference as it discharges its mandates.

- *China and the U.S. should support surveillance and tracking.* Also, the Chinese Ministry of Public Security should support the Ghana Immigration Service and police in tracking both the initial plans and operational activities of networks of Chinese and Ghanaian illegal mining organizations. The U.S. could also support the surveillance of illegal mining activities in Ghana with technology such as unarmed and unmanned drones that can enhance the mapping of locations where these activities are taking place.

- *The Ghanaian government should educate Ghanaians on the impacts of illegal mining on the environment.* The education of Ghanaians on the impacts of environmental degradation through illegal mining extraction activities and the cultivation of high disciplinary standards should be intensified. Awareness of the impacts of such illicit activities and the development of a high level of discipline will help curb the proliferation of joint illegal mining activities between Ghanaians and foreign companies. In the same vein, all expatriate investors should be educated appropriately to adhere to the laws and regulations of the sector as well as the accompanying sanctions in the event of default. These sanctions should be deterrent in outlook.

- *The government of Ghana should expedite action in approving all draft policies*. These policies include the draft mining policy and revised draft environmental policy that aim to enhance the work of the various institutions. In addition, other outdated policies should be revised to incorporate relevant provisions that will enhance the welfare of the indigenous people and the smooth operation of the institutions connected with them.

- *Ghanaians should improve their capacity through training in oil and other natural resource management skills*. Additionally, Ghanaians should position themselves in strategic investments to ensure that the benefits from local participation in the nonrenewable energy sector are enhanced. Government should also play a key role by offering scholarships to selected Ghanaians to acquire relevant skills especially in the oil sector.

- *The Ghanaian government should enhance inclusive development in Ghana while not affecting the development strives of the U.S. and China.* The three countries should encourage investors from the latter two countries to diversify their investment portfolios. Besides encouraging investors to set up industries to process nonrenewable natural resources in Ghana instead of exporting them in the unprocessed form, investors should also undertake more activities in the agricultural and manufacturing sectors. Setting up industries will not only create more jobs, but will enhance technology transfer, capacity building and returns from the processed nonrenewable natural resources.

- *Civil society groups and the media should take an active part in discussing and investigating the activities of foreign investors in the nonrenewable natural resources' sector in Ghana*. Civil society can bring about transparency and sustainable development. In other words, they should play watchdog roles to complement the efforts of other institutions.

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Response Paper 1: A Review of "The Role of China and the USA in Managing Ghana's Non-renewable Natural Resources for Inclusive Development"

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The paper by the five ISSER scholars presents a highly comprehensive picture of Ghana's non-renewable natural resources industry and the involvement of the United States and China in this field. The authors compare and analyze the differences of the nature, magnitude, behavioral pattern and corporate compliance of American and Chinese companies and offer valuable observations on how the Ghanaian government should craft effective policies to maximize the long-term benefits from the American and Chinese investments. The paper makes a great contribution to the ongoing dialogue on how African countries could and should better manage the international investors' interests in their natural resources and translate them into long-term, sustainable development outcome.

The authors keenly point out some major problems with China's engagement in Ghana's non-renewable natural resources. On the corporate level, compared with the large, law-abiding American multinational companies, Chinese companies operating in Ghana are "small in size, owned by individuals and very profuse." They focus primarily on providing services to small extractive companies and engage pervasively in "galamsey"—illegal mining activities. On the national level, the U.S. emphasizes building strong institutions and democratic governance, while China relies on infrastructure projects and loans to extract oil and gas resources from Ghana.

The irregularities and illegalities of China's behaviors in Ghanaian's natural resources industry are a key issue for the country and the future of the Sino-Ghana bilateral relations. It would be interesting for the authors to offer some in-depth analysis on the behind-the-scene stories of the Chinese patterns of operations. A differentiation might be made between the Chinese government and Chinese companies and individuals so as to avoid an oversimplified generalization of "China's" policy.

Since the Chinese irregularities and illegalities have become a major concern of the local population, it might be worth exploring what discussions Accra has engaged Beijing on the bilateral level and what China's responses and constructive adjustments (or the lack thereof) have been. In addition, readers will be interested in the internal contemplation and domestic measures taken by the Ghanaian government to tackle the challenges posed by the Chinese activities. For example, given the prevalence of illegal Chinese mining activities, are there any particular local political or social conditions that fostered the growth of the problem, such as systematic deficiency, corruption or poor governance? What is the government doing to address these deeper roots?

These discussions lead to the broader question on how to regulate Chinese behavior inside Africa. Simply expecting the Chinese to change their behavior or for Beijing to manage the booming number of actors would be far from enough given China's policy inertia and capacity constraints. China will rely on local African governments to dictate and enforce the rules they play within. Moreover, it is the job of the African governments to educate China about the broader negative consequences of the irregularities and illegalities and the benefits of better compliance. Thus, internally, the Ghanaian government would essentially be the primary party responsible.

The responsibility of the Ghanaian government to regulate the natural resource sector touches on the key problem faced by many African countries: How might they construct an effective natural resources governance and management system that is transparent, reliable and accountable? This goal is also precisely a fundamental policy objective of the United States inside Africa. It would be extremely valuable if the authors could provide an analysis of the obstacles the government faces in the process as well as targeted recommendations on how the U.S. could contribute.

Last but not least, the authors rightfully pointed out the benefits of U.S.-China competition for Africa, especially on how it prevents monopoly by one single country and offers better economic deals, market opportunities, job creations and revenues to African governments. While African countries might see the competition as desirable, it is worth considering whether there are fields where U.S.-China cooperation might be useful in promoting better economic development of Africa, such as on training, education or on the development of industries other than those related to the natural resources. In the past 12 months, Beijing pronounced that it would enhance its input to the development of agricultural and manufacturing industries in Africa as a policy priority. Might the authors see any opportunities there given the different strengths and advantages of the United States and China?

Response Paper 2: A Review of "The Role of China and the U.S. in Managing Ghana's Nonrenewable Natural Resources for Inclusive Development"

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I would like to begin by acknowledging Professor Clement Ahiadeke and other co-authors' fine work.[2] Their paper, "The Role of China and the U.S. in Managing Ghana's Nonrenewable Natural Resources for Inclusive Development," has examines the engagement of China and the United States on the issue of nonrenewable natural resources in Ghana. The report analyzes the implications and lessons of U.S. and Chinese engagement in Ghana, and provides some useful policy recommendations, especially from Ghana's position. The authors' detailed analysis of the United States' and China's operations in nonrenewable natural resources will not only contribute to our understanding of complicated trilateral relations between China, the U.S. and Ghana, it will also give us a typical example that reflects the general realities of China's involvement on the African continent. This involvement has attracted a lot of international attention, encountered increasing difficulties and suffered many criticisms.

The paper compares the similarities and disparities between the activities of U.S. and Chinese corporate bodies in the nonrenewable natural resources sector in Ghana. However, it is deserved to point out that the activities between enterprises and governments are not equal, which means that enterprises are not the instrument of the government, and they may not follow government policies of their home countries. There is usually some consistency between the activities of enterprises and the policies of government, but for most of Chinese enterprises they will not make an investment into Ghana's nonrenewable natural resources sector if they cannot earn money, even though their government encourages them to do it because the goal of enterprises is to maximize profit. Undoubtedly, the United States' and China's governments both support their own enterprises to make investments in or import nonrenewable natural resources from Ghana. But it is the relative enterprises that make their own decisions. Superficially, these similarities between United States' and China's national interests will make them compete for nonrenewable natural resources in Ghana. However, from the disparities of United States' and China's enterprises in Ghana, the inference that they will be in direct competition is not reasonable. The corporate organizations from the U.S. are large multinational companies and the corporate bodies from China are very small in size, which means China's companies are lacking in the capabilities to compete with the United States. What is more, because China's companies are latecomers while American companies are first-comers, there is only a little room left for the China. However, fundamentally, it is because China's companies lack of advanced offshore exploration and development technologies in the oil and gas sector that the companies are no match for their U.S. counterparts. So there should be no conflicts between Chinese and American companies.

On the contrary, they can cooperate with each other. For example, Chinese companies can provide some services and help to build some critical infrastructure like oil and gas pipelines, which maybe American companies are reluctant to provide for Ghana. In the case of the $3 billion loan from the China Development Bank to Ghana, it should be thought of a good thing for everyone (maybe except for China) because the interest rate is significantly low compared to Ghana's domestic loan interest rate, which is currently about 12.5 percent to 20 percent. Given the approximately 10-20 years repayment period, the China Development Bank will take a huge

[2] The authors of "The Role of China and the USA in Managing Ghana's Nonrenewable Natural Resources for Inclusive Development" include Clement Ahiadeke, Peter Quartrey, Simon Bawakyillenuo, Patricia Aidam, and Mustapha Mensah.

risk, so we should see the allocation of some oil from Ghana to China as to some extent a guarantee. China's government agreed to loan this huge sum of money to Ghana in part because Ghana is a politically stable democratic nation, so supporting the building of strong institutions and democratic governance in Ghana is also in the economic interest of China, not just in the interest of the U.S. and Ghana.

This paper has also provided some policy recommendations to solve the problem of illegal mining extraction activities and Chinese miners, including improving education and using sanctions. The paper was correct to state that the way to solve the problem is for Ghana's government to educate the local residents or punish illegal mine operators. According to some reports, some Chinese individuals and companies were also victims of the illegal mining extraction activities because they were deceived to believe that they were engaged in legal mining extraction activities by some locals. At the same time, China's government has taken some precautionary measures, including risk disclosure, education and training. Also, according to Yu Jie, the political director at the Chinese embassy in Accra, China's government wants to cooperate with Ghana to solve the problem of illegal Chinese miners.[3] Through intense bilateral cooperation between China's and Ghana's governments this issue can be solved even though there are some difficulties in the short term. Compared to this problem, the problem of importation of the Chinese labor force is a much more difficult dilemma with which to deal. There are two reasons why this is so difficult: First, Ghana and other African countries lack the qualified laborers or engineers that China's companies need. Second, China has an abundant supply of qualified labors that can meet Chinese enterprises' needs in Ghana or other African countries. What is more, even though African countries can supply qualified laborers for Chinese firms it will be a long time before China's companies learn how to localize hiring in the host country. Chinese companies need to learn from the failure and success of internationalization and management of local workers.

Finally, let me mention some facts about Ghana's oil industry. Although Ghana has been an oil producer since 2007, according to the CIA World Fact Book, it is a net crude oil importer (that is 29,000 bbl/day in 2011) and its proven oil reserves are only 660 million barrels. We do not know when Ghana will become a net crude oil exporter because its oil demand is increasing rapidly yet the growth rate of its oil production is uncertain. So in case of Ghana, we cannot assert that the quest for oil drives China's foreign policy toward Ghana.

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[3] Rice, Xan. (2013, January 8). Chinese miners flock to Ghana gold boom. *Financial Times*. Retrieved from, http://www.ft.com/cms/s/0/35a8f4b2-58ca-11e2-bd9e-00144feab49a.html#axzz2SO1oMHZl