Post Conflict Liberia: Environmental Security as a Strategy for Sustainable Peace and Development

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Post-Conflict Liberia: Integrating Environmental Security in a National Strategy for Sustainable Peace and Development

On January 16, 2006, the first democratically elected woman president in Africa, Ellen Johnson-Sirleaf of Liberia, was inaugurated. The day marked a new beginning for the country after 25 years of political turmoil characterized by destruction of the economy, loss of human life, and displacement of about two thirds of the country's population. President Johnson-Sirleaf has committed to ensuring good governance, delivering basic goods and services, expanding employment opportunities, encouraging private investment, and protecting the environment.

Currently, the president appears to enjoy the trust and support of a large majority of the population against the backdrop of high expectations to deliver on promises as quickly as possible. This honeymoon is likely to end if the government fails, or is perceived to have failed, to improve livelihoods and to meet basic needs, such as food, shelter, running water, and energy. Indeed, one of the toughest challenges of post-conflict reconstruction and development is avoiding a return to war.

This paper argues that incorporating environmental security into Liberia's national reconstruction and development strategy could help the government identify and implement measures that would mitigate threats to stability and prevent the resurgence of conflict. In order to accomplish these objectives, Liberia must improve access to food and rural livelihoods, establish an appropriate forests concessions regime, exploit the country's mineral wealth in a sustainable manner, reform the system of land tenure and property rights, and redress the problem of income extreme inequality.

Background

Liberia was founded by freed American slaves as part of a scheme developed by the American Colonization Society (ACS) to create a "colony in Africa for free blacks and manumitted slaves" (Olukoju 2006). The first repatriation of 20,000 freed slaves took place in 1821 (Caplan 2003). The former slaves were settled in Cape Mesurado, which was "ceded to agents of ACS by the leaders of several ethnic groups" (Olukoju 2006).

The names Liberia and Monrovia were coined by the ACS in 1824 (Levitt 2005), with Cape Mesurado renamed Monrovia after then-U.S. President James Monroe (Monroe was one of the founders of the ACS). The creation of the ACS, which was founded by influential white Americans and largely governed by Southerners, including slave owners, resulted from a contradictory mix of motives ranging from abolitionism to the desire to shore up the institution of slavery. Levitt (2005) writes that the "philanthropic" objectives of the ACS have been "zealously overemphasized" and that the organization was in fact established "to be an agent or mechanism to rid the United States of free Blacks because of the perceived threat they posed to America's slavocracy."

The ACS administered Liberia until 1847 when black settlers declared the country's independence.   But it was only in the twentieth century that Liberia was consolidated into a centralized state with control over its national territory (Olukoju 2006).

The People: Demographic and Social Characteristics

Liberia has a population of about 3.5 million (2005) in a geographical area of 111,370 square kilometers, slightly larger than the state of Tennessee (CIA World Fact Book 2006). The country's population density of approximately 30 persons per square kilometer is among the lowest in West Africa, to be compared with, for example, the population densities of Sierra Leone and Côte D'Ivoire at 68 and 46 persons per square kilometer, respectively. Of the total population, indigenous African tribes account for 95 percent; Americo-Liberians (descendants of freed American slaves) for 2.5 percent; and Congo People (descendants of freed Caribbean slaves) for 2.5 percent (CIA World Fact Book, 2006).

African indigenous ethnic groups include the Bassa, Gio, Kpelle, Vai, Loma, Kissi, Gola, Gbandi, Dei, Krahn, Belle, Mende, Mandingo, Grebo, Mano, and Kru (Olukoju 2006). The Mende and Gola are large West African ethnic groups present both in Liberia and in Sierra Leone. The Gola, Kpelle, Loma, Gbandi, Mende, and Mano are the oldest settlers of Liberia, dating back to 6,000 B.C. (Olukoju 2006). Some of these groups have integrated into the modern economy more than others. The Kru, for example, "supplied the labor force on European ships up to the mid-twentieth century" (Olukoju 2006).

Liberia's annual population growth rate was estimated at 4.05 percent as of 2003, with a projected population of 4.7 million by 2015 (UNFPA 2006). About 48 percent of the population lives in urban areas, which are growing at 4.9 percent per annum (UNFPA 2006). The capital city, Monrovia, had a population of 479,000 in 2003. More than one third of Liberians live within a 50-mile radius of Monrovia.

Liberia's literacy rate stood at 55.9 percent in 2003 (World Bank 2006). Primary level net enrollment in 2003 was only 65.7 percent (World Bank 2006), indicating the difficulty many Liberian children have in attending and completing elementary school. [1] In secondary schools, the net enrollment was much lower at 17.1 percent (World Bank 2006). Life expectancy was estimated at 47.1 years. The HIV prevalence rate in the age group of 15-49 years stood at 5.9 percent (World Bank 2006).

The Land: An Abundance of Natural Resources

Liberia is richly endowed with natural resources, notably rubber, iron ore, timber, diamonds, and gold. It benefits from fertile soils and favorable climatic conditions for the production of palm

and coffee, among other products. The country also has enormous hydropower potential. Over 31 percent of the land area is covered by forest, of which 96.7 percent is natural forest (African Development Bank, European Commission, and FAO 2003). Liberia is also endowed with large fresh water resources, including lakes such as Lake Pisso, and 15 river basins that interlace the country.

Although less than 4 percent of the land area is considered arable, the soil of Liberia is so fertile that it will grow a wide variety of crops, including cocoa, coffee, palm nuts, cassava, pepper, banana, mango, yam, potatoes, eddoes, rice (Liberia's staple food), and other basic agricultural products.

Source: CIA: The World Fact Book, 2004

Economic Conditions and International Relations

In spite of its natural resource wealth and its special relationship with the United States, Liberia remains among the poorest countries in the world. About 80 percent of the population is below the poverty line and the unemployment rate stands at 85 percent (Johnson-Sirleaf 2006). In 2004, Liberia's per capita GNI was $120 compared with an average of $607 for sub-Saharan Africa and $507 for all low-income countries (World Bank 2006). Thus, per capita income in Liberia in 2004 was less than a quarter of the average for all low income countries and less than a fifth of the average for sub-Saharan Africa.

Because of its unique history, Liberia has maintained a longstanding and close relationship with the United States. The Firestone Tire and Rubber Company's investment in Liberia dates back to 1926, when the government of the country awarded this American corporation a 99-year lease to create the world's largest rubber estate (Caplan 2003). During the Cold War years, Liberia hosted the Voice of America, from which its broadcast was relayed throughout Africa. Liberia also served as "the main Central Intelligence Agency (CIA) base in Africa, while U.S. military planes were granted landing and refueling rights on twenty-four hours' notice at Roberts International Airport near Monrovia" (Williams 2004).

> *"Liberia's condition is clearly of concern beyond its own borders. If Liberia is internally secure, all of West Africa will benefit. It becomes easier for the region to address the ongoing unrest in Cote d'Ivoire, as well as fragile situations in Guinea and Sierra Leone. A stable Liberia is a force for regional stability."*
> Jendayi E. Frazer, U.S. Assistant Secretary of State for African Affairs, February 8, 2006

With an American-operated ship registry, Liberia possesses the second largest merchant fleet in the world, after Panama; one third of this country's oil imports arrive in the U.S. on Liberian-flagged vessels (Williams 2004). Although the end of the Cold War diminished the geopolitical significance of Liberia, the continued uncertainty in the Middle East, the recent shift in U.S. attention toward Africa as a source of oil, and the fear that failed states like Liberia might become breeding grounds for terrorism, have helped to reestablish the strategic significance of the Gulf of Guinea in general and Liberia in particular.

Recent History: Genesis and Impact of Political Instability and Civil War (1980-2003)

Evolution of the Conflict

After becoming an independent state in 1847, Liberia enjoyed relative peace and stability for more than one 130 years. Throughout the period, however, Americo-Liberians monopolized the political and socioeconomic power while indigenous Liberians remained marginalized. In the post-World War II period, in particular, there were mounting economic and social problems that signaled an impending catastrophe.

William Tubman, President of Liberia between 1944 and 1971, recognized the risks inherent in the political and socioeconomic polarization of Liberian society. Tubman tried to deal with the issue through his "Open Door, Integration, and Unification" policy, which allegedly aimed to bring native Liberians into the political process. However, Tubman's policies, although groundbreaking insofar as they represented the acknowledgement of a problem, were not designed to give native Liberians "enough economic and political clout to unseat the settler oligarchy" (Levitt 2005). Instead, these policies failed to make a visible improvement in the

political and economic participation of native Liberians or to steer the course of future events in the direction of peaceful change.

By the late 1950s and early 1960s, Liberia's political structure and socioeconomic policies were paving the way for future troubles. First, Liberia had a "democracy" characterized by one-party rule and virtual ethnic exclusion, with only a small number of elected positions reserved for native Liberians. Second, Tubman extended preferred status to foreign companies and Lebanese-owned businesses, a policy that suppressed the emergence of a national entrepreneurial class. Third—in a practice not uncommon even in present-day African democracies—Tubman persuaded the legislature to amend the constitution, which was crafted along the lines of the US Constitution, to permit unlimited four-year terms. Fourth, the Tubman government suppressed all opposition. Through a repressive security network, Tubman made sure that there was no opposition to his rule, rooting out nascent political parties in their infancy. Fearful of change, Tubman extended his autocratic rule to extraordinary lengths. For example, almost all government activities had to be approved by the president, and he "personally countersigned all government checks for sums of $100 and more" (Levitt 2005).

Upon the death of Tubman, another Americo-Liberian, William Tolbert, who had served as Tubman's Vice President, assumed power. Tolbert's rule (1971-1980) was considerably shorter than that of his predecessor. At that time, the winds of political change were blowing throughout Africa. Tolbert made serious efforts to implement the "Open Door, Integration, and Unification" program that Tubman had initiated. However, his main goal appears to have been to "reconstitute the political order by rationalizing the presidency without diminishing its excessive and exclusive privileges" (Sawyer 1992).

Liberia's political and economic landscape changed dramatically with the economic difficulties of the late 1970s. Largely driven by high oil prices, the severe economic problems that Liberia faced resulted in large increases in food prices—in particular that of rice, the staple food. In 1979, the urban population responded to the price hikes with street protests and riots. The Tolbert government took the self-destructive measure of quelling the riots with harsh military actions that claimed the lives of several dozen Liberians (Levitt 2005).

In 1980, Master Sergeant Samuel K. Doe, a native Liberian, staged a coup d'état that overthrew President Tolbert. Doe and his People's Redemption Council suspended the constitution and assumed total power. President Tolbert and 13 of his ministers were executed. Since then, Liberia has gone through a period of political turmoil and civil war characterized by atrocities, extensive human suffering, economic collapse, and massive destruction of the country's infrastructure.

Because of mounting international pressure, the Doe government vowed to restore democratic rule and allowed the establishment of a multiparty political system. National elections were organized in 1985, which Doe won. But the election was widely criticized. As have many dictatorial regimes in Africa, the Doe government sought to give a democratic face to a largely repressive rule in order to appease the international donor community, without the support of which his government probably would not have been able to function.

Charles Taylor came to prominence in 1989 when his political party, the National Patriotic Front of Liberia (NPFL), started an uprising against the Doe government. In addition to his personal political ambitions, Taylor was driven by a desire to reestablish the Americo-Liberians as the dominant political force (Teh 2006).

The gruesome fight between the Doe government and the NPFL, the atrocities and unprecedented human and material losses it entailed, and its potential to spill over to neighboring countries and destabilize the entire West Africa region, placed considerable pressure on the Economic Cooperation of West African states (ECOWAS) to intervene. In 1990, ECOWAS sent a peacekeeping force, called the Economic Community of West African States Monitoring Group (ECOMOG), to Liberia with the hope of restoring peace and political stability to the country.

The Doe government collapsed with his execution by a group that split from the NPFL. In 1991, ECOWAS and the NPFL agreed to establish the interim government that brought Charles Taylor to power. But Taylor was never able to consolidate power nor did he respect the rule of law or the democratic rights of Liberians. Warring factions mushroomed. As a reflection of the high level of fragmentation, at the time of the Abuja Peace Accord of 1995, nine political groups signed the agreement with the government of Charles Taylor (HRW 1997).[2]

Charles Taylor's rule came to an end in 2003 though international diplomatic efforts. Upon leaving power, Taylor was exiled in Nigeria. He was later indicted for war crimes by a United Nations tribunal in Sierra Leone. In March 2006, Nigerian authorities arrested Taylor and sent him to Sierra Leone where the former Liberian ruler was handed over to the UN. He was recently moved to The Hague for trial by the International War Crimes Tribunal. If the tribunal convicts Taylor, Britain has agreed to jail him.

Upon the departure of Charles Taylor, the National Transitional Government of Liberia (NTGL) was formed. The NTGL came out of the comprehensive Accra peace agreement signed on August 18, 2003 by several warring factions. The signers included the Government of Liberia (GOL), the Liberians United for Reconciliation and Democracy (LURD), and the Movement for Democracy in Liberia (MODEL). The NTGL had the backing of the United Nations, ECOWAS, the African Union, the European Union, the United States, the IMF and the World Bank. The NTGL managed to organize the elections that brought Ellen Johnson-Sirleaf to power in January 2006. The United Nations still maintains 15,000 peacekeeping forces in Liberia, the largest operation of its kind in Africa. The government of President Johnson-Sirleaf has requested the extension of the UN peacekeeping operation for an additional five-year term (Johnson-Sirleaf 2006).

Socioeconomic Impact

Two and a half decades of political instability and civil war have left a trail of massive destruction of the country's productive capacity and socioeconomic infrastructure. Particularly during the 14-year rule of Charles Taylor, Liberians lived under conditions of abject poverty, isolation, civil war, and widespread carnage. The war led to the death of up to 6 percent of the Liberian population and the displacement of nearly two thirds of the survivors (UNDP, UNDESA n.d). Children as young as 8 years of age were forcibly recruited and forced to become combatants (UNDP, UNDESA n.d). The country's infrastructure was shattered as fighters tore down power cables and ripped up water pipes for scrap metal.

The economic, social and regional impact of political instability and civil war in Liberia is discussed elsewhere in this paper. This section aims to highlight changes in key economic and social indicators. Chart 1 below shows that Liberia enjoyed strong economic growth throughout the 1960s and 1970s. This growth largely was driven by the flow of foreign direct investment and higher exports of iron ore and rubber (IMF 2005). The GDP reached its peak in 1980, but substantially declined under the Doe government and thereafter. The economic situation continued to deteriorate rapidly during the civil war (1989–96) that destroyed the country's

economic and social infrastructure and led to the flight of human and financial capital. After the departure of foreign firms, most of the mines were damaged and rubber production came to a halt.

Chart 1

Source: The World Bank, *World Development Indicators*. 2005.

As the chart above depicts, by 1995 real GDP had declined to one-tenth of its prewar level (IMF 2005).   As Chart 2 below shows, the performance of four of five of Liberia's economic sectors-- declined during the civil war, albeit at different rates and following different trajectories. Agricultural output, the primary source of livelihoods for more than 70 percent of the population, deteriorated dramatically from 1989 to around 1993 (as both commercial and small-holder production came to a virtual stand still) and recovered significantly thereafter. Services followed a similar downward path as agriculture but the recovery of this sector began later and was much more modest than was the case for agriculture. Mining plummeted precipitously after 1989 and never recovered. Manufacturing, never a major contributor to GDP, declined gradually reaching an abysmally low level in the mid-1990s, with some recovery thereafter.

Forestry, however, stands out in stark contrast to all other economic sectors in that it stayed relatively constant during the early 1990s. The civil war, in fact, created conditions for the overexploitation and accelerated degradation of forest resources. Liberia lost over 760,000 hectares of forest during the ten year period between 1990 and 2000 (African Development Bank, European Commission and FAO 2003). The contribution of forestry to Liberia's GDP increased in the late 1990s and early 2000s but declined significantly thereafter.

Chart 2
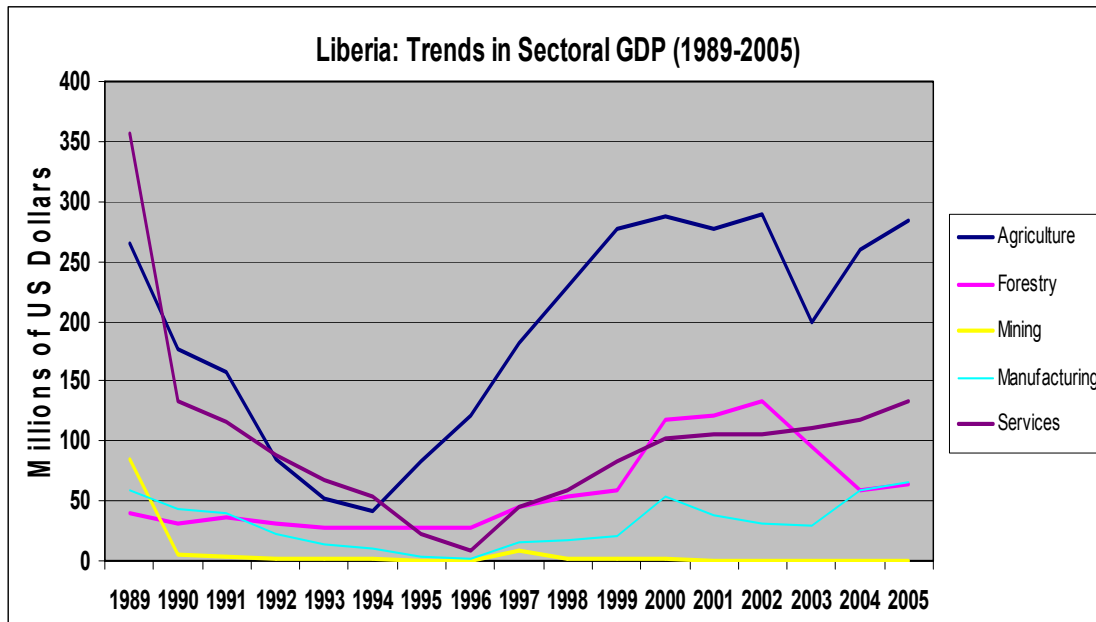
Liberia: Trends in Sectoral GDP (1989-2005)

The signing of the Abuja Peace Accord on August 19, 1995, which aimed to disarm, demobilize, and reintegrate fighters and to hold national elections by 1996, helped to halt the downward spiral of the economy. The Accord ushered in a period of hope and a semblance of political stability. Refugees started to return, albeit in small numbers. The agricultural sector began to show growth. Indeed, 1996 was the turning point for rice production and consumption. However, despite improvements in agricultural production and general economic performance after 1996, Liberia's economy has not yet fully recovered, and it could take it several years for it just to reach the 1980 level of GDP.

Regional Impact

The adverse effects of political instability and conflict in Liberia have spilled over beyond the nation's border. Indeed, the conflict in Liberia is thought to be at the epicenter of a subregional crisis. The political and economic turmoil that Sierra Leone (and to some extent Côte D'Ivoire) faced in recent years has been attributed to the Liberian situation. Driven by a desire to influence regional development and ensure access to diamonds, Charles Taylor is reported to have provided mercenaries, financial aid, arms, and bases for Sierra Leone rebel groups (Studdard 2004). In an apparent attempt to expand their influence in the region, "in September 2002 combatants from Liberia and Sierra Leone were involved in the fighting that erupted in Côte d'Ivoire" (UNDP HDR 2005).

The illegal trade in arms, diamonds and timber also took on a regional dimension. According to Global Witness, Liberia's "illicit trade was virtually monopolized by one company, the Oriental Timber Company (OTC) that also holds a virtual monopoly on all shipping entering Liberia and much of the country's internal transportation which enables the transshipment of arms" (Global Witness 2006). Because of geographic contiguity and the natural resource base that Liberia shares with its neighboring countries, infrastructure built for timber extraction has been used for "the onward shipment of weapons to Sierra Leone" (Global Witness 2006).

The large number of Liberian refugees and displaced persons has also strained the fragile economies of neighboring countries. Of the total of approximately 330,000 Liberian refugees as of 2005, Guinea hosted 127,256, Côte d'Ivoire 70,402, Sierra Leone 65,433, and Ghana 40,583. The Liberian refugee flow even affected some countries outside the region, specifically the United States, where 20,339 Liberian lived in 2005 (UNHCR 2006).

In sum, the war and its adverse impact on the economic and social well-being of both Liberians and the populations of neighboring countries did not end with the departure of Charles Taylor in 2003. Fighting among different rebel groups and warlords continued for an additional two years, making the tasks of national reconstruction and development all the more daunting. It was only on June 22, 2006, that the UN sanctions on Liberia's timber exports were lifted subject to a review by the Security Council after 90 days, with the possibility that the sanctions could be reinstated if appropriate forestry legislation were not passed within this period (Global Witness 2006). The ban on diamonds is still in force as of September 2006.

The Johnson-Sirleaf Government: Sowing the Seeds of Hope

In her inaugural address, as well as in her recent speech at the Center for Global Development in Washington, D.C., President Johnson-Sirleaf reaffirmed her government's pledge to good governance, balanced economic development, and the promotion of private investment. She outlined the government's main priorities as follows:

> *"We have taken the necessary first steps to restoring dignity to our people, starting to fix our economy, to get our international credibility and reputation back."* Ellen Johnson-Sirleaf

- Reconciliation, peace, and security. This will require reconstituting the police forces and the military, which have been disbanded; creating an enabling environment for Liberians to start a new life, to trust one another again, and to live together in peace; instilling confidence in government; and giving the people a source of hope in the future of the country.

- Good governance. This involves developing a functioning justice system, reestablishing the rule of law, and setting up a governance structure based upon transparency, accountability, and responsiveness to the needs of the population. President Johnson-Sirleaf also has underlined the urgent need for a civil service reform that will pave the way for creating an honest and effective government.

- Rehabilitation of socioeconomic infrastructure. The Sirleaf government inherited a dilapidated economic and social infrastructure characterized by a lack of potable water, limited access to electricity, the absence of functioning hospitals, and shattered roads. Thus, schools and hospitals need to be rehabilitated, electricity and water supply restored, and roads made usable.

- Job creation. According to the president, unemployment in Liberia has reached an astonishing 85 percent of the working population. The potential political consequences and implications for stability if the employment situation is not improved are self-evident.

- Development of partnerships for the rational utilization of the country's mineral and forest resources. Among the first measures the Johnson-Sirleaf government took was the cancellation of more than 80 forest concessions with a view to eliminating

malpractices in forest management and environmental non-compliance (Johnson-Sirleaf 2006).

The above represent a set of well-articulated and necessary measures for which the Johnson-Sirleaf government has received international acclaim. However, implementing these measures and maintaining the confidence of the Liberian population is a Herculean task. At the same time, the government must also consolidate its power, which hinges on maintaining a delicate balance between backers of the former regime of Charles Taylor and supporters of the new government. Because the new administration is starting from ground zero, however, it also has the opportunity to carry out a fundamental transformation that would begin moving Liberia toward sustained economic growth, social development, environmental regeneration, and enduring peace.

For the Johnson-Sirleaf government to maintain the high level of public support it enjoys at present, it has to deliver tangible benefits for the people of Liberia. Given the heavy dependence of the population on the environment, now and into the future, specifically the key role of agriculture, forests, and mining in providing livelihoods, the Liberian government should consider integrating an environmental security approach as part of its national development strategy. Such a step would help the government identify and prioritize measures in light of their potential to avert or mitigate environmental security threats to the peace building process, threats that might contribute to a resurgence of conflicts that could have implications not only for Liberia but for its neighbors in the region as well.

Looking Toward the Future: The Need for an Environmental Security Approach

Liberia's economy is characterized by low income, scant industrialization, and a heavy dependence on a narrow range of natural resources. The presence of a significant number of

"Even though it (Firestone) operated the world's largest rubber plantation that had a major impact on America's industrialization, not a single rubber processing plant was built in Liberia to help develop the skills of the people. Over the years, thousands of laborers - rubber tappers on the Firestone Plantation - were housed in shack-like quarters, most of which lacked electricity and indoor plumbing and seemed cramped and poorly ventilated." (Williams 2004)

America-Liberians, who have been exposed to U.S. technological advances, coupled with the country's privileged position in regard to access to U.S. technology and know-how, might have helped Liberia attain a higher level of industrialization than it has so far achieved. Instead, Liberia, like other sub-Saharan countries, is a primary commodity exporter. Rubber, timber, iron, diamonds, cocoa, and coffee are its main exports.

A large majority of the population of Liberia derives its livelihood from the land, specifically forests, minerals, and agriculture. President Johnson-Sirleaf has underlined the development of the agricultural sector as the best way to reduce the extremely high unemployment rate and has promised to accord a high priority to sound environmental management. Thus, it would appear that the current Liberian government might be receptive to a development strategy that incorporates the concerns of environmental security, an approach that has increasing currency on a global level.

Rise of Environmental Security as a Global Issue

Today, there is growing recognition of the significant role the environment plays in maintaining political stability and security. Environmental agencies and development specialists increasingly are conceptualizing changes in the environment in security terms while many security organizations and experts, for their part, have acknowledged the vital importance of the

environment in relation to questions of stability and peace. Among the milestones in this process are the following:

• The development over the past 25 years of a large body of literature analyzing the linkages among environmental degradation, natural resources, societal stability, and conflict.[3]

• The establishment, beginning in the early 1990s, of a program of research and studies initiated by the U.S. intelligence community and military commands to examine the role of environmental issues in national and regional stability.

• The inclusion, in the 1994 Human Development Report, of environmental change as one of the seven main threats to human security (UNDP 1994).

• The creation of environmental security research and policy programs and institutes, including the Woodrow Wilson Center's Environmental Change and Security Program (1994), the Foundation for Environmental Security and Sustainability (1999), the Institute for Environmental Security (2002), the UNEP/UNDP/OSCE/NATO Environment and Security Initiative (2003), and the United Nations University for Peace's post-graduate degree program in environmental security and peace (2005).

Issues surrounding environmental change, extractive industries, and political instability and conflict continue to be brought to the center stage of the security and development agendas. Currently, the Office of Conflict Management and Mitigation (CMM) in USAID is cataloguing best practices in conflict management and mitigation, and to this end has prepared several toolkits that analyze disputes over land, forests, and minerals (USAID, OCMM 2006).[4] Such a convergence of research and policy analysis has paved the way for the priority of environmental security to ascend on national and international development agendas.

Links Between Environmental Issues, Security, and Conflict

There is no single and universally accepted definition of environmental security. According to the Foundation for Environmental Security and Sustainability (FESS), environmental security is "a condition in which a nation or region, through the sound governance, capable management, and sustainable utilization of its natural resources and environment, takes effective steps toward creating social, economic, and political stability and ensuring the welfare of its population." Conversely, environmental insecurity "is a condition in which a nation or region fails to effectively govern, manage, and utilize its natural resources and environment, causing social, economic, or political instability that leads over time to heightened tensions, social turmoil, or conflict" (FESS 2006).

Most indicators of Liberia's socioeconomic, political and natural resource situation suggest a country suffering from severe environmental insecurity. Liberia today faces grave problems of massive poverty, substantial levels of starvation, extremely high unemployment, and simmering ethnic tensions (between Americo-Liberians and the indigenous population), in the context of a heavily damaged socioeconomic infrastructure and a population disillusioned by civil war. With respect to natural resource management, Liberia also faces serious problems of tropical rain forest deforestation, soil erosion, loss of biodiversity, and pollution of coastal waters from oil residue and raw sewage. Sound economic, social, and environmental policies and well-functioning structures of governance would help to guarantee security and political stability. Conversely, poor socioeconomic and environmental policies and weak governance will tend to create conditions for widespread grievances, insecurity, tensions and, eventually, conflict.

Neither the abundance of natural resources nor the lack of access to or misuse of natural resources automatically results in societal-level conflict. It is rather the perception of threat, insecurity, and hopelessness arising from deprivation that can trigger or cause conflict. Even in such cases, the experience of many countries suggests that armed conflict is usually a cumulative result of years of grievances, stress, and insecurity. Individuals and communities are resilient, and the proclivity generally is to avoid violent conflict. In most cases, such conflict erupts only after all available coping strategies are exhausted, and when public policy and institutions fail to make a timely intervention to change the course of events. In the Liberian case, 25 years of political instability and civil war has diminished the population's resilience, considerably increasing the likelihood that perceived or actual resource deprivation and environmental insecurity may trigger conflict.

A popular leadership with a sound public policy has the potential to avert impending conflicts by offering alternative livelihoods, improving access to resources, providing incentives to invest in land, promoting sustainable use of natural resources, and creating conditions for dialogue and participatory development. The Johnson-Sirleaf government is well positioned to influence, in a positive direction, the manner, timing, and extent of use of natural resources at the individual, community, and national levels. At the same time, there is a significant probability that environmental insecurity will trigger a return to conflict *if* the Johnson-Sirleaf government is weak during the transition period and unable to consolidate power, reestablish law and order, and change the attitudes of Liberians from those borne of war and friction to those conducive to a state of peace and social harmony.

Elements of an Environmental Security Strategy in a Post-Conflict Setting

Today, Liberia faces the challenges of feeding its population, restoring basic services and infrastructure, demobilizing ex-combatants and reintegrating them into civilian life, and initiating reconstruction and development. Moreover, the leadership must do these things while building an enduring peace. A major challenge lies in changing people's attitudes from those associated with war and hatred to those consistent with a harmonious coexistence and productive engagement. What is perhaps most crucial is to avoid creating conditions for the resurgence of conflict. One step toward achieving this objective is to integrate environmental security within a national development strategy thus enabling the government to identify and take measures to help mitigate environmentally-rooted threats to the peace process.

Such a strategy needs to address five interrelated environmental security issues:
- Improving the population's access to food and rural livelihoods.
- Putting in place a forest concessions regime that benefits the country and its citizens while restoring ecosystem integrity.
- Exploiting mineral resources, particularly diamonds, in a sustainable manner.
- Improving property rights and establishing a sound land tenure policy.
- Redressing the country's severe income inequality by increasing employment opportunities through the appropriate and sustainable exploitation of natural resources and through other measures.

Improving Access to Food and Rural Livelihoods

Agriculture is the mainstay of the Liberian economy. In 2004, the agriculture and fisheries sector accounted for 51.9 percent of Liberia's gross domestic product (IMF 2005). Rice and cassava dominate food production; in 2004 they accounted for 18.8 percent and 22.1 percent of total agricultural value added, respectively (IMF 2005).

Agricultural output is derived from three types of farms: concession, commercial, and traditional. Concession farms, mostly rubber and palm oil, are largely owned and operated by foreign firms. Until the civil war, rubber production accounted for much of the value added in agriculture, generating over $100 million export earnings annually (FAO 2005).

The commercial farms are mainly owned and operated by Liberians and engage in the production of fruits, vegetables, coffee, oil palm, poultry, hogs, and other commodities. Although commercial farms play a prominent role in Liberian agriculture, it was only in the 1970s, in the aftermath of the fall in rubber prices, that the government promoted production of smallholder commercial agriculture (FAO 2003).

Traditional farming, which is largely subsistence, provides livelihoods to the bulk of the rural population. As in many developing countries, the use of modern technology is limited. Shifting cultivation and slash-and-burn based extensive agricultural practices are the primary production techniques. According to the FAO (2003), secondary forest is cleared and burned and upland rice is cropped together with other food crops, such as cassava, groundnuts, and vegetables. This method of cultivation causes rapid soil fertility loss and severe environmental degradation.

Protracted political instability and civil war destroyed much of the productive capacity of the Liberian agricultural sector. As the war intensified, farmers were forced to leave their land. For those who stayed, roads to Monrovia were closed, and the lack of transportation and access to markets discouraged these farmers from producing beyond their immediate family requirements. Trends in rice production and consumption thus show a marked decline from the mid-1980s to the mid-1990s. The year 1995 saw the lowest amount of rice production and consumption of any in the period (See Chart 3 below). Imports, which declined slightly in the late 1980s, rose in 1990-1991 before beginning another decline that reached bottom in 1997.

Chart 3

Rice Production, Consumption, and Imports (1990-2003)
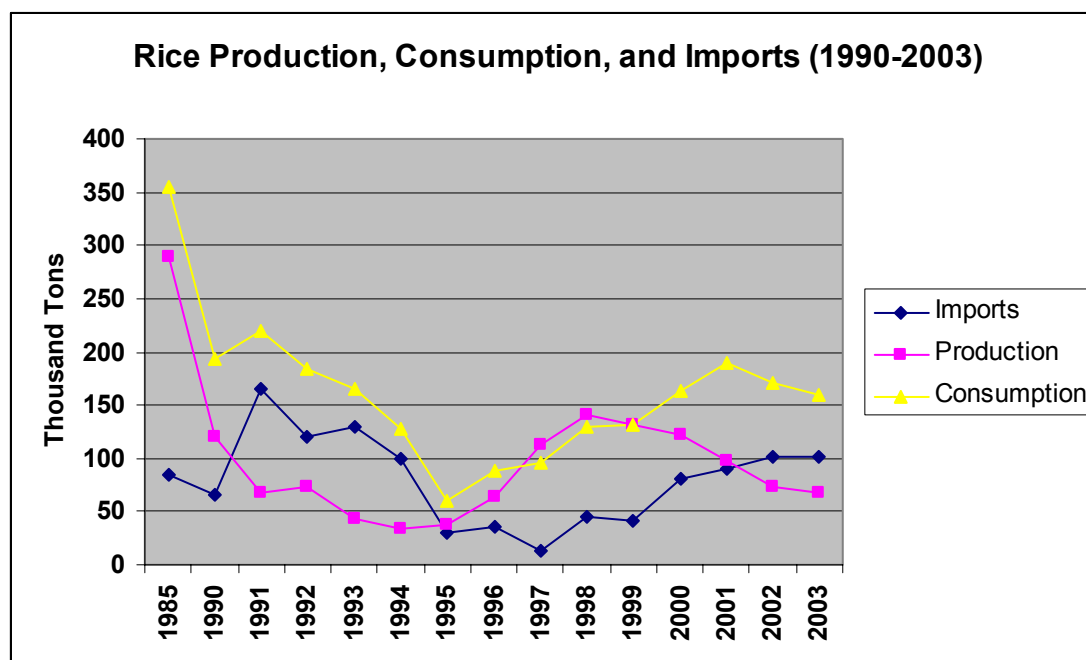
Source: UN FAO for data 1985-2000 and thereafter IMF 2005, Liberia: Selected Issues and Statistical Appendix.

The signing of the Abuja peace agreement that year and the partial return of refugees was the turning point for agricultural production. The chart above shows that rice production and consumption rose significantly after 1995. Production, however, peaked in 1998 and declined thereafter while consumption rose until 2001 after which it dipped moderately. Rice imports fell between 1991 and 1997, then rose until 2002-2003, after which they held steady at around 100 million tons.

Liberians continue to depend heavily on rice, and the gap between production and consumption remains wide. Food availability must be substantially increased to meet the needs of a rapidly growing population.   While the possibilities of expanding rice production are high, the government needs to make an extraordinary effort to encourage the production and consumption of other crops, particularly indigenous crops, especially cassava and plantain.

> *"Many of us in Liberia have been misled into believing that eating "pussava" or Uncle Ben's rice makes us "kwi" (civilized) people instead of seeing our dependency on other nations for our basic food and household products as self-enslavement. The orgy of destruction in the 1979 rice riots ($40 million private property damage, 40 demonstrators dead, 500 wounded, etc.) which occurred when the Minister of Agriculture, Florence Chenoweth decided to increase the subsidized price of rice from $22 to $26 dollars for a 100 pound bag speaks to our collective vulnerability." (Samah 2006)*

Liberia experiences severe food deprivation and falls short of the minimum calorie consumption standard by 390 kcal per day (FAO 2005). By this measure, it is the fourth hungriest country in sub-Saharan Africa after Somalia, Mozambique and Burundi (FAO 2005). As shown in Chart 4 below, the number of malnourished Liberians (shown by the line chart) increased by about 270 percent between 1990-92 and 2001-03. Thus by the time Charles Taylor left power in 2003, close to 50 percent of the Liberian population was malnourished (shown by the bar chart).

Chart 4
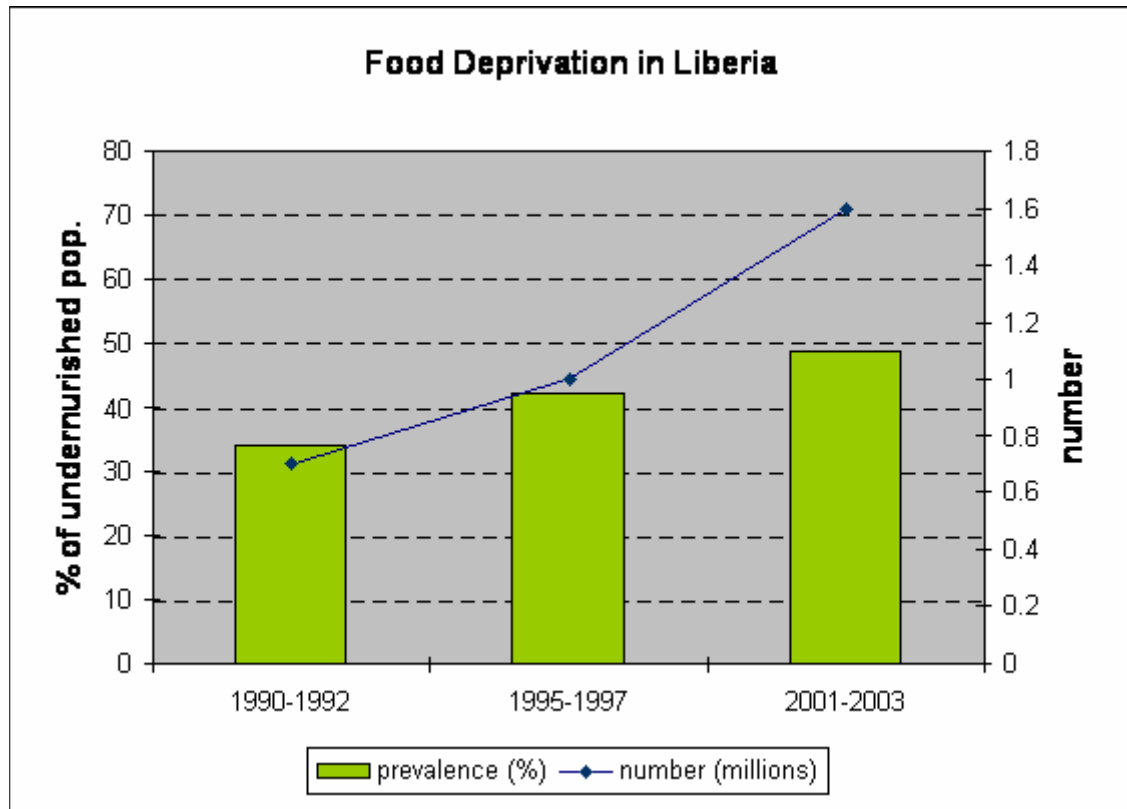
Source: Food and Agriculture Organization, *The State of Food Insecurity 2000.*

Liberia's agriculture faces several challenges, including antiquated technology, low levels of investment, a lack of modern agricultural inputs, the prevalence of pests and diseases, and poor marketing, credit, and research facilities (FAO 2005). According to FAO, the country also faces a shortage of physical labor for agriculture. This is ironic in a nation with an 85 percent rate of unemployment, and it may be yet another legacy of a long war that severed the ties to the land of many of the young men that fought in it.

Land tenure is another critical challenge. Today, three types of land ownership prevail in Liberia: state or public land, individual proprietorship, and common/tribal or common/collective ownership rights based on custom. Customary ownership is the dominant form of land tenure. Under customary ownership, the tribal chiefs are the custodians of the land, and usually the land is responsibly managed to maintain land fertility.

Land is also an important unifying factor as it brings family or clan members together. Liberia's current land tenure regime is an amalgam of customary African and modern Western property ownership. According to one author, "the customary land use rights and the [customary] law policy existed without any real conflict".... "until the settlers or freed slaves from America introduced alien concepts of buying, selling and making of new and written laws on full private ownership of land as understood by Westerners" (Torpor n.d).

Undoubtedly, increased investment in agricultural production and putting in place sustainable land use and agricultural practices would make a vital contribution to achieving post-conflict stability and economic growth. Success in creating employment opportunities, increasing food supply, and halting environmental degradation would depend in part on the level and rate of investment in agriculture as well as on the use of sustainable practices. Changing attitudes of ex-

combatants toward civilian life, in particular in regard to farm work, will be important to realizing the employment-generating capacity of the agricultural sector.

Forest Concessions: From Conflict Timber to Sustainable Forest Management

Liberia's forests make up a significant proportion of the Upper Guinean forest, which is "recognized as one of the twenty-five hot spots for world biodiversity" (World Rainforest Movement 2002). It provides a habitat for many endemic species of flora and fauna.

More than 80 percent of Liberia's landscape is covered by forests (FAO 2000). The forest sector plays a vital role in Liberia's economic development and social stability. In 2002, it accounted for 23.9 percent of GDP, although by 2004 the contribution of forestry to GDP had shrunk to 1.8 percent because of the combined effects of the civil war (IMF 2005) and international sanctions. The forest sector also "generates up to 60 percent of the nation's foreign exchange earnings" (USDA 2006). However, under Charles Taylor's rule, Liberia's forests epitomized a sector grossly mismanaged and misused, with revenues from timber funding violent conflict in Liberia as well as in some neighboring countries, especially Sierra Leone.

Liberia experienced especially heavy deforestation over the past three decades. Of a total of 3.5 million hectares in forests, the country loses 76,000 hectares a year (African Development Bank, European Commission, and FAO 2003). This makes the annual rate of deforestation slightly over 2 percent. Logging operations are the primary cause of deforestation. Between 1997 and 2001, for example, the production of roundwood increased by a spectacular 1300+ percent (World Rainforest Movement 2002).

While deforestation generally is attributed to the gross mismanagement of the forest sector, two additional factors are worth noting: a phenomenal increase in wood fuel consumption and illicit trade. Partly due to the political instability and civil war that curtailed the supply of non-biomass sources of energy, wood fuel consumption doubled in twenty years, going from 2.5 million cubic meters in 1980 to 5.2 million cubic meters in 2000. Illicit trade in timber was high during this period. In 2000, the reported production of industrial round wood was 337,000 cubic meters while export was 637,000 cubic meters, indicating significant under-reporting of production (African Development Bank, European Commission, and FAO 2003)

For Liberia, timber has been both a blessing and a curse. Timber is a natural resource that can be extracted with relative ease and generates significant revenue because processing and trade do not require a large amount of investment. It is a very lucrative business characterized by very high return to investment. However, the beneficial traits of timber are the very sources of its vulnerability to illegal harvesting and marketing practices. Because forests are easily accessible, it is hard to track buyers and sellers and to enforce compliance with forest legislation.

> *"In Liberia, timber companies used private militias to gain control over local populations, discourage protests, and encroach on communal lands. Timber militias, along with the military and the police, intimidate local communities, destroy and steal goods, and seize farms and forest land for companies." USAID, Forest and Conflict: A Toolkit for Intervention originally sourced from (Price 2003 and Jarvie, et al. 2003).*

In Liberia, as in many other African countries, timber has been seen as a source of supplemental income for government bureaucrats and rebel groups as it is amenable to a high level of state involvement. Forests are highly vulnerable to illegal logging not only because they are easily accessible but also because they are usually under communal or large-scale ownership. The

presence of many buyers and sellers makes it difficult to track timber extraction activities (Ejigu 2006).

In the case of Liberia, timber production is so unsustainable that, according to an advocacy group, the country's forests are "likely to be commercially logged out in as little as thirteen years" (Global Witness, 2001). This would have serious consequences for the nation's economy and the livelihoods of individuals and communities. Because over 96 percent of Liberia's forest is natural, the loss in terms of biodiversity, ecosystem integrity and hydrological processes also would be considerable.

In an attempt to cut funds flowing to the perpetrators of the bloody civil wars in Liberia and Sierra Leone, and to preserve Liberia's natural resources, the United Nations Security Council, through its Resolution 1521 of 2003, imposed sanctions on the export of Liberian timber. The Council agreed to lift sanctions once Liberia's government has "full authority and control over Liberia's timber producing areas" and is able to ensure that "government revenues from the Liberian timber industry are not used to fuel conflict."

In line with meeting the UN's requirements, President Johnson-Sirleaf issued her first Executive Order on February 2, 2006, canceling all timber concessions. The decision was taken in response to the findings and recommendations of several studies. In one such study, the Liberian Forest Initiative (LFI) tracked concessions granted and found that 26 million acres had been allocated to various people or groups while Liberia's forests actually total less than 10 million acres! Further, "no individual concession holder was able to demonstrate sufficient level of legal compliance… the timber industry fuelled one of the world's most violent conflicts, it also systematically siphoned much needed funds away from the impoverished Liberian people and into the hands of warlords and arms-traffickers" (Global Witness 2005).

The president's executive order mandates the Forestry Development Authority (FDA) to "grant or allocate future forest concessions only after it determines in writing that the measures for forest management reform …are fully instituted and implemented and the necessary legislation enacted" (Government of Liberia 2006).

The Forest Development Authority is expected to benefit from ongoing and new external support through the Liberia Forest Initiative. Among other things, LFI aims to "promote and assist reforms in the Liberian forestry sector that will allow for transparent management of forest resources and to ensure that these resources are used for the benefit of the Liberian people" (LFI 2006). LFI is supported by a variety of organizations, including the USDA Forest Service, USAID, Conservation International, the Environmental Law Institute, the World Bank, the European Commission, the UN Food and Agriculture Organization, the International Monetary Fund, and the World Conservation Union (LFI 2006). The main accomplishments of the LFI include: 1) the training of 150 FDA employees; 2) the peaceful removal of 5,000 illegal gold-miners and poachers from the SAPO National Park; and 3) the completion of the third phase of the forest concessions review, which examined all forest concession agreements between the government and private concessionaires as far back as 25 years.

One of the key supporters of Liberia's forest sector is the USDA Forest Service, which currently has a long-term technical advisor based in Monrovia and funded by the U.S. State Department and USAID. The USDA is supporting the forest sector reform by: 1) designing a plan for the financial and institutional reform of the FDA; 2) completing a transparent concessions review process; 3) exercising control over forest resources; 4) designing a training plan aimed at bringing

FDA personnel, civil society, and concession holders up to minimum international standards; and 5) securing a commitment to enforcing the rule of law in protected areas (USDA 2006).

In addition, the FDA has identified priority activities that, if implemented, would place it on the right track. These activities include reviewing existing concession agreements, implementing transparent accounting systems for timber extraction and revenue collection activities, assessing the state and extent of Liberia's forests, and developing community-based forestry and protected area management activities (FDA 2006). Additionally, the FDA would benefit if mechanisms are put in place that can help it learn from the experiences of other countries in the management of sustainable forest concessions and the implementation of norms of corporate social responsibility.

While the activities stated above represent commendable efforts, putting in place forest management practices that contribute to sustained improvement of livelihoods and to achieving enduring peace and stability requires a holistic approach that addresses the causes and effects of forest-related conflicts.

In addition to employing sustainable forestry as part of a national development strategy, Liberia can reduce the probability of resource-based conflict by instituting sound practices in its mining sector.
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The Mining Sector: Diamonds and the Kimberley Process

In prewar Liberia, the mining sector was dominated by iron ore production that, at its peak in the 1970s, accounted for 23.5 percent of GDP. But the share of iron ore in GDP went down to 10.9 percent in 1987, 2.2 percent in 1999, and less than one percent in 2004 (IMF 2005). During the war, iron ore mining came to a standstill owing to the collapsed infrastructure and to the high capital investment required for its reactivation (EIU 2005).

Although Liberia has had some history in diamond mining, diamonds were not a main source of income until the civil war. However, Liberia's diamond exports increased dramatically during the conflict. Liberia mines very few diamonds of its own, yet between 1991 and 1998, it exported over 31 million carats of diamonds to Belgium (Diamond High Council 2006). It is generally believed that the bulk of the diamonds exported from Liberia during the civil war actually originated in Sierra Leone. The chart below shows that in the late 1990s Liberia exported more diamonds to Belgium, known as "the world's diamond center," than did any other country in West Africa. The civil war and diamond smuggling truly complemented each other as the same chain of command used in the war could be utilized for smuggling diamonds.

> "*Artisanal diamond mining in West Africa is a high risk, individualistic, flexible and cash-led business that crosses ethnicities and borders.*" (Diamonds for Development 2006)

Chart 3

Belgium's Import of Rough Diamonds from African Conflict Countries
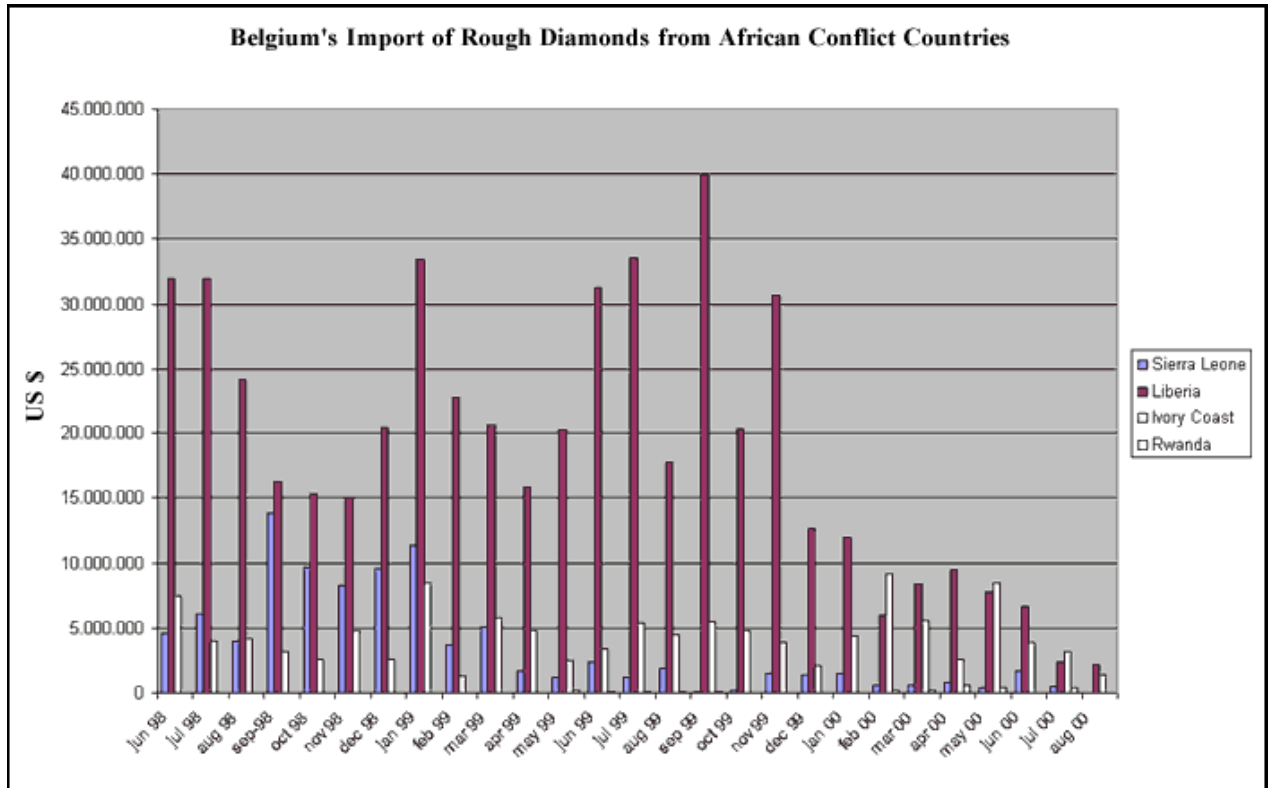
In 2000, Liberia produced a reported 170,000 carats of diamond valued at $27.2 million while Sierra Leone produced a reported 350,000 carats valued at $87.5 million (World Diamond Council 2006). The total value of diamonds produced would be much higher if the illicit production were include in the figures. Illicit diamonds are used to fund armed conflict. A United Nations panel reported that "Liberia had provided the rebels in Sierra Leone with weapons, training, logistical support, a staging ground for attacks and a safe haven for retreat ….the volume of diamonds Liberia smuggled from Sierra Leone ranged from $25 million to as much as $125 million a year, more than enough to sustain the RUF [Revolutionary United Front]" (Global Policy Forum 2001 sourced from Reuters). Consequently, the UN Security Council, through Resolution 1343 of March 7, 2001, imposed a ban on the direct and indirect import of all rough diamonds from Liberia.

In December 2005, the UN Panel considered the possibility of lifting sanctions but decided not to end the ban on the grounds that the transitional government lacked financial controls, which would make it likely that most government revenues derived from diamonds would fail to enter the budget process for the benefit of the people. The sanctions on diamond exports are still in force despite the Johnson-Sirleaf government's demand for their immediate lifting.

As in other countries in West Africa, Liberia's diamond mining is alluvial. This has several important implications. Production and trade are hard to regulate. Alluvial mining is done by individuals and does not require heavy equipment or complex machinery. In addition, diamonds are easy to smuggle because of their small size. Further, the perception that one can make several thousand dollars quickly from selling a single gem attracts new entrants into the business and

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encourages illegal mining. Because of the large volume of soil that is excavated, diamond mining can cause severe environmental degradation and biodiversity loss. It can also accelerate malaria infestation as holes left over from mining collect water that stagnates, thus creating an ideal breeding ground for malarial mosquitoes.

As more and more alluvial diamonds are retrieved, Liberians and foreign firms may find it attractive to move into large-scale diamond mining. Large-scale mining makes the monitoring of production and trade easier, but an even larger proportion of the wealth thus derived would likely fall in the hands of a few already rich individuals and companies than is the case even in the highly unequal alluvial mining industry.

The Kimberley Process Certification Scheme (KPCS) was created in May 2001 to ensure that diamond sources were legitimate and not being used to fuel conflict. At present, Liberia does not participate in the Kimberley Process. However, if the Johnson-Sirleaf government maintains the credibility and respect it has earned since it assumed power, and if the UN Panel finds that the necessary financial control mechanisms are in place, Liberia would undoubtedly become a key player in the Kimberley Process Certification Scheme. To achieve this end, Liberia must improve its human resource base and institutional capacity to the degree necessary to implement the Kimberley Process. This would include: 1) licensing and regulation of production and trade; 2) ensuring environmental compliance and sustainable mining practices; and 3) engaging local communities in the diamond development process and ensuring diamond revenues contribute to the socioeconomic development of communities around mines.

Equity and Access to Resources

Countries dependent on natural resources (particularly minerals and timber) tend to experience slow growth, unusually high corruption rates, abnormally low rates of democratization, and an exceptionally high risk of civil war (Ross 2003). Further, in such countries wealth tends to concentrate in the hands of the ruling elite or dominant class, and the economic management process centers around controlling the wealth and centrally allocating it to favored sectors rather than increasing productivity by finding the means to mobilize the creativity and ingenuity of citizens in order to lay a broader foundation for development. The development experience of countries endowed with abundant natural resources varies greatly, however. Countries that benefit from sound governance structures and policies, including Norway (oil) and Botswana (diamonds), have used proceeds from their natural resource wealth to promote far-reaching social development and economic growth. That is not the most common experience, however. More typical is the case of Liberia, where the wealth from rubber, iron ore, and timber was used to keep the ruling Americo-Liberian elite in power through the creation of a formidable security network (Levitt 2005).

Indeed, Americo-Liberians, although they constitute only about 2.5 percent of the population, have dominated Liberian politics and economics for 150 years. Efforts by presidents Tubman and Tolbert to integrate indigenous Liberians into the political process through improved access to education were grossly insufficient to make a dent in their absolute deprivation. The political dominance of the Americo-Liberians seemingly ended when Samuel K. Doe, who had a Krahn (the Krahn are a Liberian minority group) ethnic background, assumed the presidency in 1980. The next Liberian leader, Charles Taylor, was of mixed Gola and Americo-Liberian ancestry. As practiced in many countries in the world, each leader brought into his government people of his own ethnic group whom he considered trustworthy. Although elements of ethnic tension were present, the desire to control political and economic power rather than ethnic domination per se seemed to be the prime drivers of political conflict and instability. In the 1970s, clashes between

Americo-Liberians and African-Liberians were synonymous with clashes between the government and the governed and between the haves and the have-nots. Grievances that had accumulated over the years, coupled with policy and institutional failures of the leadership that emerged after the riots of 1979, fueled protracted political instability and civil war.

The Liberian constitution, modeled after the United States, called for equality, democracy, and freedom of expression. The reality was quite different; African-Liberians were required to pay higher taxes than Americo-Liberians and were denied the right to vote until 1951 (BBC 2006). With the opening of the Firestone rubber factory in 1926, African-Liberians were forced into slave-like labor to bolster the economy. Forced labor was abolished only in 1936 and racial discrimination was proscribed by law in 1958 (BBC 2006). The power structure was designed to marshal the wealth generated from the work of the natives into the hands of the Americo-Liberian ruling elite, in part by keeping wages low.

> *"Americo-Liberian hegemony was established, primarily, on the basis of insidious distinctions between "civilized" settlers and "uncivilized" Africans. It was secured by superior weaponry and US intervention, and institutionalized when Liberia declared its independence in 1847. In time, assimilation occurred when Native Liberians took on attributes of "civilization," a process facilitated by President William V.S. Tubman's Integration and Unification Policy in the 1940s. During this period, indigenous participation in all aspects of Liberian life increased, but not sufficiently to break the continued political, economic, social, and cultural dominance enjoyed by the ruling Americo-Liberian elite."* (Bruce 2004)

Some serious forms of exploitation continue to this day. A study by the United Nations Mission in Liberia focusing on human rights in rubber plantations reported "plantation workers are exposed to hazardous working conditions without adequate training or safety equipment …" and "…do not receive fair wages or equal remuneration...child labour is frequently used on the plantations" (UN Mission in Liberia 2006). Similar charges are the basis of a lawsuit filed in a California Court on April 21, 2006, by the International Labor Rights Fund charging Bridgestone with maintaining "conditions of slavery on plantations" (The Analyst-Monrovia 2006).

Low wages, poor and unhealthy working conditions, low agricultural productivity, and widespread poverty are conditions often associated with environmental insecurity. These problems are aggravated by the deficient regime of property rights that has characterized Liberia since its creation. When governance fails or is perceived to have failed, land users (individuals and communities) sometimes take matters into their own hands and decide on the ownership and use of land. Land users who are politically allied with those in power tend to receive more fertile and larger tracts while those in opposition parties or who are members minority groups are pushed to marginal lands. Such practices create the potential for conflict. Thus, putting in place a sound land use and tenure policy is clearly one of the biggest needs in post-conflict Liberia if reconstruction and development are to be successful.

Toward an Environmentally Secure Liberia: What Can Be Done?

A unique feature of an environmental security centered strategy, as proposed above, is the prevention of renewed violent conflict through: 1) identifying factors that have the potential to trigger and cause such conflict; 2) prioritizing these factors in light of their significance; 3) articulating policy and operational measures; and 4) implementing these measures.

The attainment of sustained improvement in livelihoods and political stability crucially depends on the effectiveness of short-term measures designed to prevent the resurgence of conflict. The

cumulative effect of the value added by each successive development program and project activity impacts the prospects for sustained peace and development. Thus the issue of timing is critical to the whole process.

Sequencing Development Aid

Both in the short and medium terms, a substantial level of development aid is a prerequisite for Liberia to tackle the problems described above. The international community has been responding to Liberia's plight. For example, in 2005, the Governance and Economic Management Assistance Plan (GEMAP) was initiated following a series of consultations that involved the National Transitional Government of Liberia, the United Nations, the European Union, the Economic Community of West African States, the African Union, the United States, the International Monetary Fund, and the World Bank.

> *If the threat of reversion to conflict in fragile states is to be averted, then aid is an investment in creating the conditions for sustained peace. (UNDP 2005)*

GEMAP focuses on addressing and reforming six different aspects of government (World Bank 2006: 1) financial management and accountability; 2) budgeting and expenditure management; 3) procurement practices and concessions; 4) measures to control corruption; 5) support of key institutions; and 6) capacity building.

As stated earlier, however, the capacity of the country to absorb aid effectively, particularly the capacity of government institutions to prepare and implement projects, will be severely limited in the immediate post-conflict period because building institutions, mobilizing human resources, and changing people's attitudes takes time. Thus, while Liberia needs immediate assistance, an enduring international commitment is even more important.

> *"Research suggests that the optimal period for absorbing increased aid is about six years after a peace settlement, by which time donor interest has moved on." (UNDP 2005).*

It is vital for Liberia to articulate a development strategy that sequences development aid so as to help the country consolidate the democratic process, achieve enduring peace, attain sustained improvement in the socioeconomic well-being of Liberians, and avoid a resurgence of conflict.

Undertaking an Environmental Security Assessment

In order to incorporate an environmental security approach as part of a national development strategy, the first priority task is to carry out an environmental security assessment. An environmental security assessment (ESA) is a tool for informed development decision making. It seeks to understand the relationships between people and the sources of their livelihoods (environment) as well as the implications of changes in the environment in the context of their potential to spark off or escalate social grievances, political tensions, insecurity and, eventually, conflict. Because political structure, economic and social policies, and cultural factors considerably influence the two-way relationship between environment and conflict, analyses of governance, socioeconomic conditions, and the sociocultural context are integral parts of ESA. Because a comprehensive environmental security assessment is a prolonged process and time is of the essence for Liberia, what is proposed here is a targeted assessment that focuses on agriculture and livelihoods, forests and forest concessions, and diamonds and development.

Focusing on the Key Environmental Security Factors

The environmental security assessment should focus on the five issues identified in this paper, namely:

- Promoting and supporting the development of sustainable land use and agricultural practices. The World Bank defines sustainable land management as "the use of land resources such as soils, water, animals and plants for the production of goods—to meet changing human needs—while assuring the long-term productive potential of these resources, and the maintenance of their environmental functions" (World Bank 2006). Land has economic, social and cultural value for Liberians as for most agricultural people. Land remains the primary source of livelihoods, a storehouse of wealth, a measure of social class, and a source of identity. It is used for many different purposes, including cultivation, mining, forests, energy, and water. While some of these purposes are conflicting, others are mutually reinforcing. Sustainable land management practices involve balancing land uses in order to preserve soil fertility, control erosion, and maintain the functioning of land-based ecological and hydrological processes. For Liberia to move toward sustainable land management requires initiatives to mitigate deforestation, to curtail slash-and-burn farming practices, to rehabilitate mining areas, to promote soil and water conservation programs, and to reduce the heavy dependence on timber as a source of government revenues.

- Instituting a timber concessions regime that promotes sustainable forest management and encourages corporate social responsibility through knowledge sharing. By canceling all timber concessions, the Johnson-Sirleaf government is starting afresh in the forest sector. But planned reforms of licensing, production, and trade, as well as changes in the distribution of benefits derived from forests, need to be carried out. The reforms must ensure that the forest ecosystem maintains its productivity, regeneration capacity, and hydrological, ecological and social processes. While there are ongoing projects in support of sustainable forest management, the ESA process can contribute in several areas. These include: identifying best practices in forest concessions that minimize conflict and maximize political stability; facilitating the development of a model for sustainable forest management; and helping in capacity-building and implementation.

- Building capacity for the implementation of the Kimberley Process. This is best pursued as an integral part of the initiative to promote the implementation of the Kimberley Process in Sierra Leone and other countries in west, central and southern Africa. Such an initiative could improve the livelihoods of artisanal miners, improve the policy environment for responsible investment in diamonds, and build human and institutional capacity for regulating the production and marketing of diamonds.

- Improving property rights and access to resources. With rapid population growth and two and a half decades of political instability, Liberia requires effective land policies to regulate land tenure and land use practices.

- Redressing severe economic inequality by expanding employment opportunities in agriculture, tourism and other sectors.

Conclusion

Liberia's political instability and civil war left a trail of destruction of livelihoods, infrastructure, productive capacity, and financial resources. Political institutions and administrative agencies were in shambles, and the rule of law absent from the scene. The task of restoring proper governance, rehabilitating social and economic infrastructure and, most importantly, of changing people's attitudes from those associated with war and confrontation to those founded on working and living together, is an awesome undertaking. As the beneficiary of much international and domestic goodwill, the Johnson-Sirleaf administration has, at the same time, a unique opportunity to achieve enduring peace and political stability and to propel the country toward sustained economic growth.

Because the Johnson-Sirleaf government came to power though a transparent democratic process, it currently enjoys the support of most Liberians as well as that of the international community. But there are enormous short-to-medium term challenges in providing adequate food, restoring power and water supply, repairing roads, demobilizing and reintegrating former combatants, and ensuring that the proceeds from the extraction of timber and mineral resources do not go to fund the resurgence of conflict. Further, the rate of unemployment, which stands at 85 percent, is dauntingly high.

This paper has identified the range of environmental security issues that must be addressed to help the country avert conflict and has raised the need to sequence development assistance appropriately in order to promote sustained development. Key areas of intervention are ensuring adequate food supply, putting in place sustainable timber concessions, promoting community development-focused diamond extraction, avoiding environmental security problems that could fuel ethnic grievances, reforming land tenure and property rights, and combating extreme inequality. It is especially vital that policy and operational measures be taken in such a manner as to avoid environmental security threats that could spark the resurgence of conflict.

Peace and progress in Liberia would make an enormous contribution to restoring stability in the Gulf of Guinea, in particular in Sierra Leone, Guinea, and Côte d'Ivoire. These countries have similar cultures, many of the same ethnicities, and similar natural resource endowments as Liberia, most notably timber and diamonds. Thus, an investment in Liberia's peace process, rehabilitation, and economic reconstruction and development is an investment in the region as a whole.

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[1] Net enrollment ratio (NER) is the number of enrolled children in the official school age group divided by the total number of children in the country in the official school age group.

[2] Those who signed the accord included Charles Taylor leader of the National Patriotic Front of Liberia (NPFL). Alhaji Kromah leader of the Mandingo faction known as United Liberation Movement for Democracy in Liberia (ULIMO-K), George Boley from the Liberian Peace Council (LPC), a splinter group of the AFL Hezekiah Bowen from the Armed Forces of Liberia (AFL), a group consisting of President Doe loyalists, Roosevelt Johnson led the Krahn faction of the United Liberation Movement for Democracy in Liberia (ULIMO-J), Francois Massaquoi who led the Lofa Defense Forces (LDF) from Lofa Country, Thomas Woewiyu of the National Patriotic Front of Liberia-Central Revolutionary Council (NPFL-CRC) a splinter group of the NPFL, and Chea Cheapoo from the Liberian National Conference (LNC).

[3] For a list of many of the key books and articles in the literature on environmental security, see the "Resources" section of the FESS web site at http://www.fess-global.org/Resources.cfm.

[4] For additional information about and access to CMM's toolkits, see the USAID website at http://www.usaid.gov/our_work/cross-cutting_programs/conflict/in_the_spotlight.html.

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