

The Impact of International Environmental Security on National Sovereignty

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Abstract

This paper is a theoretical exploration of the relationship between national sovereignty and international environmental security. Since the Cold War the paradigm of national and collective security has shifted to include non-military aspects such as environmental issues. As a consequence, global environmental security concerns may encroach upon national sovereigns. The trend of collective security under the consideration of environmental degradation is particularly significant to strategic areas such as Panama. The Panama Canal's operation is directly effected by the state of the local watershed environment. Any environmental degradation that diminishes the canal's operational capacity could become an international security issue in which intervention is exercised by the global community. Thus, environmental protection of the Canal watershed becomes important as a Panamanian national sovereignty principle.

Introduction

Environmental degradation can be a determining factor in the reduction of Panamanian control of the Canal and its surrounding areas. This is especially important because the Panama Canal is one of the two most strategic waterways in the world (the other being the Suez Canal). Understanding the dynamics of conservation and sustainable development in this region is of great importance for the development of this country and for world peace and order.

The state of the environment in Panama is important because it has a direct relationship (cause/effect) with Canal operations. Increased siltation and decreased water flow related to population pressures and agricultural techniques, i.e., deforestation, can contribute to the dysfunction of the Panama Canal. Such environmental degradation of the Canal watershed would normally be a sovereign matter. However, this degradation becomes a global concern when it is concomitant with international economic transportation patterns that rely on passage through the Panama Canal. Moreover, this is especially important when new theories and policies of global security are emerging which take into account environmental factors.

Before the canal ceases to operate and creates world economic chaos, outside intervention will be justified as an international security issue in which pre-emptive correction measures could be exercised by the global community. Thus, environmental factors become significant and environmental protection of the Canal watershed becomes important as a Panamanian national sovereignty principle. Consequently, mismanagement of Panamanian natural resources could diminish its economic development and jeopardize sovereignty of its own territory by means of commercial sanctions, blockade, and ultimately foreign intervention¹.

The Strategic Importance of Panama

Protection of the Panama Canal Zone has always been of great importance for Panama and for world order. Since the early days of colonization there has been constant competition for possession of this isthmus. This is because of its prime strategic location midway between Europe and Asia and as the bridge between North and South America.

Spanish interests in voyages of expedition after Columbus' discovery were primarily to find a passage to the Indies (McCoullogh 1977). Vazco Nuñez de Balboa was the adelantado that led the first successful settlement of the isthmus of Panama (1510-1514). His successor, Pedro Arias Dávila, founded Panama on the Pacific coast. Since these early days Panama became the center for commerce and trans-shipment of Spanish goods to the colonies of New Granada². This route served

as the main gateway of the gold and silver extracted in what are now Bolivia, Peru, Colombia, and Ecuador (Bishop 1913). Although there was treacherous terrain and unhealthy conditions the trans-isthmian passage was in most cases preferable to the route around Cape Horn (Atlas Nacional de Panama 1970). This colonial route was the major development factor of what was then La Capitanía General de Panamá and it lasted until piracy jeopardized the shipments.

In 1595, Francis Drake tried unsuccessfully to sack Old Panama City (Bishop 1913). Almost one hundred years later, in 1671, Henry Morgan successfully sacked and destroyed the city. This episode concomitant with the constant assailing of ships in the Caribbean Sea, marked the beginning of the decline of the transport of gold, silver, and spices through the isthmus, and shifted such cargo through other ports like Buenos Aires (Johnson 1906, Jorden 1984). The regional balance of powers then shifted to increase the development of the southern cone.

Meanwhile, the U.S. showed intense interest in the Isthmus of Panama. For example, during the peak period of the gold rush in 1849 many American prospectors chose this route to save themselves from the hardships of the U.S. trail (McCoulough 1977). As a consequence, the U.S. embarked upon the construction of an inter-oceanic Panamanian railway which started operation in 1855 (Liss 1967).

It took until independence from Colombia to restore Panama to its relative importance in global play when the Panama Canal was constructed under U.S. auspice. Since it opened to transoceanic maritime traffic in 1914 more than 790,000 vessels have transited through this waterway. In 1996 alone, 15,187 ocean-going vessels sailed through the canal, carrying a record 198 million tons of cargo, and generating \$487 million in toll revenues (Panama Canal Commission 1998). In addition, the canal is of overwhelming importance to the U.S./Far East trade, with this one route alone accounting for 44% of canal business (Panama Canal Commission 1998). Clearly, this waterway is valuable for saving time, distance and resources in international transoceanic commercial and military navigation.

The Hay-Bunau-Varilla Treaty of 1903 entitled the U.S. to take possession of the Canal Zone and gave the U.S. rights to operate and use the Canal in perpetuity (Liss 1967). In addition, this treaty allowed the U.S. to perform other tasks both within and outside the Canal Zone such as operating public utilities and policing Panama City (Bray 1977). The police force remained under United States control until 1936. Later, during W.W.II, the land surrounding the Canal Zone was adjoined to increase security of the locks and canals.

The nation of Panama, its origins, sovereignty, national identity, socio-political character and development are entirely dependent upon the Panama Canal. Today, Panama has a market economy which is mainly fueled by the services provided as by-products and support activities to the maritime transportation through the Canal Zone. For example, the Colon Free Zone (Zona Libre de Colón) created in 1953 has become an important trading center providing storage, shipping, communications, banking, insurance and packaging services (Figueroa 1997, Bray 1977). This sector of the economy employs one half of the population and accounts for two-thirds of the gross national product. As a counter part, agricultural production accounts for only one-tenth of the GNP and employs approximately one-third of the population (Censos Nacionales 1980). For most part, agriculture practices are of the subsistence type and contribute in great part to the deterioration of the environment.

Maintenance and infrastructure investment is vital to Panamanian development. According to Nicolás Ardito Barletta (1997), Panama is counting on massive foreign investment to turn the 94,000 hectares of the Canal Zone into a dynamic industrial complex. Some 7,000 buildings and other facilities with an estimated value of \$4 billion will be sold to private interests and planned investments already total \$800 million (Universal Congress of the Panama Canal 1997).

In conjunction with private development, \$1 billion in modernization and improvements have been implemented by the Panama Canal Commission including widening the Gaillard Cut which will increase the operational capacity by twenty percent (PCC Public Relations 1998). In addition, the Commission passed a resolution to study the addition of a third set of Canal locks earlier this year (PCC Public Relations 1998). In short, the total transfer of the Canal Zone, alongside privatization measures and private investment incentives, will be aimed to "integrate the canal area into the country's development" (Gaskin Reyes 1997).

Clearly, the interests of the nation rely more directly and importantly on the Canal Zone operations than on subsistence agricultural products. Therefore, national policies and practices of environmental preservation which aim to protect the natural capital, i.e., by shifting to better management practices of agriculture, reducing land acquisition in pristine areas, and fostering economic development related to the service sector, will help sustain the economy, contribute to social stability, and assure long-term hegemonic control of this nation's assets.

International Environmental Security

Current discourse documents the evolution of national security principles from bipolar, east-west, Cold War dynamics to a multipolar, all-regions setting (Boyer 1993). The origin of the concept of national security can be traced to the end of W.W.II. (Romm 1993). Certainly at the dawn of the Cold War, the clearest implications of the national security concept were associated with the threat of the Soviet Union. At that time, security was only concerned with military matters. However, since the dismemberment of the Soviet Republics into independent states, the threat of direct war with the Soviets has largely subsided.

Moreover, the dynamics of the relationships between states has evolved. Inis Claude (quoted in Weiss and Hayes 1993) uses the term *collective security* to describe any international arrangement whose aim is peace and rests on the assumption of all against one. The concept of peace enforcement was developed in opposition to classical balance-of-power and alliance politics. Collective security does not permit the designation in advance of a putative enemy, as in the case of defensive alliances. War under collective security arrangements is waged in the name of the entire community of nations against an aggressor that is genuinely perceived to threaten them all (Weiss and Hayes 1993).

Dewitt et al. (1993) state that the great challenge of security and peace is to recognize that the security of any state or community cannot be entrusted either to that entity alone or to some universal body. The art of the politics of security will face its challenges in the interstices between the sub-national, national and regional interests. For example, Boutros Boutros-Ghali stated that the "United Nations has reemerged as the focus of much discussion concerning the new security architecture, one in which collective security is tempered by cooperative security and the rights of both individuals and national communities are given sufficient weight that they call into question their traditional inviolability of the nation state."

Moreover, for some, national security has become globalized by the fact that national interests and domestic policies have become increasingly intertwined in a more interdependent world (Morales 1989). The interrelationship of local and regional economies, labor migration, shared use of natural resources, i.e., international waterways, are complex and inseparable. Thus, the debate of a comprehensive international security continues.

Some environmentalists are in favor of expanding military security to include environmental and economic spheres (Mathews 1989). Others reject the idea arguing that the military security doctrine is too narrow to incorporate more complex issues such a global environmental degradation (Duedney 1991). Romm (1993), however, stresses the importance of a loose concept of national security which includes all aspects of society. This approach includes military and non-military aspects of security (Dewitt, et al. 1993) such as demographics, legitimate democratic governments (Sorenson 1990), economic development, human rights and environmental sustainability factors (Mathews 1989; Ullman 1993). Currently, national security is most often analyzed through five principal areas: economic security, environmental security, demographic security (i.e., transnational migration, refugees), cultural security (i.e., subversion of religious and ethnic values), and military security (Pentland 1993).

Scholars have recently asserted that environmental pressures such as the release of chlorofluorocarbon compounds as well as other highly toxic contaminants contributing to the deterioration of the natural environment may seriously affect national and international relations (Homer-Dixon 1993, Brown 1990, Myers 1987). Others, consider the agricultural process of slash and burn to be the most serious form of renewable resource decline, affecting watersheds, air pollution and reducing agricultural production (Mydans 1997). It seems likely that as environmental degradation proceeds not only will the size of the potential social disruption and conflict increase, but the capacity of the states to intervene in the prevention of such conflicts will decrease (Homer-Dixon 1993).

The internationalization and importance of environmental security and the forces to which small countries are bound is illustrated by the G-7 summits which issued policies of environmental security in 1986, added the problem of Panama and Central America in 1989, securing democracy in 1990, and strengthening international order in 1991 (Kirton 1993). According to Madeline Albright environmental problems are the root of socio-political unrest and the U.S. is committed to "combat serious growing international environmental threats" (Wapner 1997). Thus, inflicting environmental damage may spark international rebuttal via diplomacy, mediation, sanctions or military intervention in order to preserve natural capital and the economic and human capital associated with it (Pentland 1993).

Therefore, international organizations such as the United Nations (Russett and Sutterlin 1990), local governments and NGOs are increasingly dedicated to addressing environmental problems (Wright 1997). These structures will directly influence the management of natural capital—which affects national sovereignty (Fisher 1993). According to Homer-Dixon (1993), current theories and data make it difficult to conduct deep analysis of the links between environmental change and conflict. Case studies of specific societies are needed: Where are the different kinds of environmentally derived conflicts likely to occur? What are the important social effects of environmental change?, What types of severe conflict are most likely to result from these social effects? It seems most likely that such conflicts will occur in strategically important regions such as Panama.

The Principle of Sustainability and Canal Operations

The original design for a transoceanic waterway was carried out by Adolphe de Lépinois, who envisioned damming the Chagres River on the Atlantic and the Rio Grande on the Pacific, to create navigable lakes that would be connected by a cut through the continental divide. Although refuted by the original Compagnie Universelle du Canal Interocéanique, this proposal was later adopted by the U.S. Isthmian Canal Commission in 1906 (Sibert and Stevens 1915, Goethals et al. 1916). The Panama Canal project, established by President Theodore Roosevelt, was financed and built by the U.S. for U.S. national interests. It took ten years and \$450 million to complete, and since that time, the USA has invested \$3 billion in its operation (Jorden 1984).

The Canal was designed to operate only by hydraulic and mechanical means. The total transit through the canal requires 50.7 miles of navigation. The system relies upon three locks on each side of the isthmus which elevates ships to 85 feet above sea level. Thus, of the total 50.7 miles, a ship will travel 32 miles at 85 feet above sea level (McCullough 1977). The locks' operation relies on 200,000 cubic meters of water per transit. This engineering concept requires a minimum of water storage capacity as well as a constant supply of water. The locks are filled by gravity allowing the transit of vessels through a mountainous terrain. Rainwater of the Chagras River basin is collected in a series of man-made lakes (Martinez 1978).

The extraordinary volume of water used in each operation is only possible because the canal is located in a moist, tropical, broad-leaf forest (Dinerstein et al. 1995). The water used in each transit is lost and is only replenished by the water cycle of the natural forest habitat. The forest vegetation cover provides for water retention and ensures low runoff with its associated siltation of the lakes and the Culebra Cut. By using the plentiful water³ resources of this environment, the Panama Canal provides for years of inexpensive service to the shipping business and thus brings to the western world products at a reduced cost in a prompt and safe way.

The main water supply for the canal is provided by the watersheds of two rivers deriving from Gatun lake and Alajuela lake. The lake-and-lock system is a water regulator and requires a minimum water level for its operation⁴. The advantages of this system are that it provides for more efficient use of the water and it reduces the potentially destructive effects of seasonal flooding, in this way ensuring the availability for water operation during the dry season.

However, El Niño-caused drought led to critically low levels of water in the watershed lakes during the 1997-1998 season (PCC Public Relations 1998). The Panama Canal Commission spent approximately \$12 million to mitigate the effects of El Niño. Strict water saving measures were imposed including a switch from hydroelectric to thermoelectric power generation that cost the agency \$10 million. Other measures utilized were special operational changes at all Canal locks that significantly reduced water consumption, and 109 days of draft restrictions applied to vessels transiting the Panama Canal (PCC Public Relations 1998).

A serious and increasing problem of silting and sedimentation of the streams and rivers of the watershed and, ultimately, of the canal itself is a constant threat. Maintenance is constantly required to keep the water clear of obstruction and earth deposits. With the increase in population since World War II, use of the lands adjacent to the waterway has also increased. The canal watershed was completely forested until 1952, but, by 1978, the forest canopy was almost lost (Dinerstein et al. 1995). Deforestation has created soil erosion and on occasions of heavy rainfall the canal banks have collapsed. Runoffs and landslides have been intermittent problems since the

canal's construction. The last major landslide occurred in 1974. On this occasion traffic in one lane was delayed for repairs until the following year (Martinez 1978).

Mismanagement of the protected areas that form the watershed of Lake Gatun and Lake Alajuela can significantly jeopardize canal operations. New and persistent population settlement near the canal is one such source of pressure. Slash and burn agriculture, commercial logging, and firewood collecting are employed by settlers as means of subsistence, but these methods are all environmentally unsuitable techniques. If not curbed, overpopulation in the upper Alajuela basin will eventually override the carrying capacity of this ecosystem.

In view of the possible ecological consequences generated by social pressures and leading to the degradation of this tropical environment, several agencies are working towards the mitigation and in some cases the restoration of the canal environs (Aizpura and Jaen 1997). These include the International Development Bank, the United States Agency for International Development and the government of Panama, among others. The international inter-agency management of environmental protection and economic development in Panama is represented by the convergence of foreign capital, economic and technological assistance, as well as educational expertise.

This confluence of interests in solving the problems of development by the local inhabitants of the canal's watershed is exemplified by the work carried out by TechnoServe, an NGO based in Washington, D.C. and associated with USAID. Currently, this NGO is conducting environmental education programs to alleviate the environmental damage produced by a steadily increasing population in the upper basin of the Panama Canal. The site of their most recent project is the upper Alajuela basin along the Ciri and Trinidad Rivers. According to TechnoServe (1998), "These two watersheds are threatened by environmental degradation, most notably deforestation. Moreover, they are critically important as a source of water for the operation of the Panama Canal. Lake Alajuela, for example, provides 70% of the required water for the canal." Innovative farmer-to-farmer techniques and better agricultural practices are part of the strategies being utilized by TechnoServe to decrease watershed deterioration.

The Canal Zone and Its Importance to the National Sovereignty and Security of Panama

This paper assumes that national security and sovereignty are directly linked to the capacity to develop an economic future without decimating the natural capital, with the understanding that natural capital is the endowment a country has in natural resources to develop its economic and social standards. In this case, the Canal Zone and its surrounding watershed are to be preserved in order to ensure the livelihood of present and future generations. Condition *sine-qua-non* the sovereignty and self-determination of Panama could be clouded by the fundamental change in foreign policy which is shifting toward global environmental security. This is exemplified by the U.S. State Department's "commitment to environmental protection (abroad) where damage to the environment threatens the health of the American people and the future of our economy" (Wapner 1997).

Bibliography

- Aizpura, Jorge Renan and Rodolfo Jaen.
April 15, 1997. "Canal Authority Uses Incentives for Private Developers to Reforest Decimated Areas." Panama: *El Siglo; El Panama America*.
- Ardito Barletta, Nicolás.
1997. Speech Delivered at the Universal Congress of the Panama Canal. Panama City, Panama. Atlas Nacional de Panama.
1975. *Panama*. Instituto Geográfico, Nacional Tommy Laguardia, Republica de Panama, 3rd ed.
- Ayoob, Mohmed
1991. "The Security Problematic of the Third World." *World Politics* 43 (2):257-283.
- Bishop, J.B.
1913. The Panama Gateway.
- Boyer, Mark A.
1993. *International Cooperation and Public Goods: Opportunities for the Western Alliance*. Baltimore, MD: John Hopkins University Press.
- Bray, W.D.
1977. *The Common Law Zone in Panama: A Case Study in Reception*.
- Brown, Janet (ed.).
1990. *The United States Interests: Resources Growth and Security in the Developing World*. Boulder, CO: Westview.
- Censos Nacionales
1980. Dirección de Estadística y Censo, Panama en Cifras anuales.
- Dewitt, David, David Haglund, and John Kirton (eds.).
1993. *Building a New Global Order: Emerging Trends in International Security*. New York, NY: Oxford University Press.
- Dinerstein, E., et al.
1995. *A Conservation Assessment of the Terrestrial Ecoregions of Latin America and the Caribbean*. World Bank and World Wildlife Foundation.
- Duedney, Daniel.
1991. Environment and Security: Muddled Thinking. *Bulletin of the Atomic Scientist* 47 (April 1991): 22-8.
- Figueroa, Vilma E.
November 6, 1997. "Balladares: el Canal nunca ser↔ privatizado." Panama: *La Prensa*, Miami: *El Nuevo Herald*.
- Fisher, Dietrich.
1993. *Non-Military Aspects of Security: A Systems Approach*. New York, NY: United National Institute of Disarmament Research.
- Gaskin Reyes, C.
1997. Speech Delivered at the Universal Congress of the Panama Canal. Panama City, Panama.
- Goethals, G.W., et al.
1916. *The Panama Canal: An Engineering Treatise*, 2 Vol.
- Homer-Dixon, Thomas.
1993. *Building a New Global Order: Emerging Trends in International Security*. . In David Dewitt, David Haglund, and John Kirton (eds.) Pp. 141-158. New York, NY: Oxford University Press.

- Johnson, W.F.
1906. *Four Centuries of the Panama Canal*.
- Jorden, William J.
1984. *Panama Odyssey*. Austin: University of Texas Press.
- Kirton, John.
1993. The Seven-Power Summit as a New Security Institution. In David Dewitt, David Haglund, and John Kirton (eds.) *Building a New Global Order: Emerging Trends in International Security*. New York, NY: Oxford University Press.
- Liss, S.
1967. *The Canal: Aspects of United States-Panamanian Relations*.
- Martinez, Orlando.
1978. *Panama Canal*. London; New York: Gordon and Cremonesi.
- Mathews, Jessica.
1989. "Redefining Security." *Foreign Affairs* 68(2):162.
- McCullough, David.
1977. *The Path Between the Seas*.
- Morales, Waltraud.
1989. "The War on Drugs: A New National Security Doctrine?" *Third World Quarterly* 11(3): 147-169.
- Myers, Norman.
1987. *Not Far Afield: U.S. Interests and the Global Environmental Security*. Washington, D.C.: World Resources Institute.
- Mydans, Seth.
1997. "South East Asia Chokes as Indonesian Forest Burn," *New York Times*, September 24, 1997. Volume CXLVII. New York.
- Oyola-Yemaiel, Arthur.
1996. *The Conservation Movement in 20th Century Argentina: A Case Study of the National Park System*. Masters Thesis. Miami: Florida International University.
- Panama Canal Commission.
1997. *Universal Congress of the Panama Canal 1997*. Panama: Panama Canal Commission web site.
1998. *Public Relations Report*. February 17. Panama: Panama Canal Commission web site.
1998. *Public Relations Report*. September 3. Panama: Panama Canal Commission web site.
- Pentland, C.C.
1993. "European Security After the Cold War: Issues and Institutions." In David Dewitt, David Haglund, and John Kirton (eds.) *Building a New Global Order: Emerging Trends in International Security*. Pp. 141-158. New York, NY: Oxford University Press.
- Romm, Joseph.
1993. *Defining National Security: The Nonmilitary Aspects*. New York, NY: The Council of Foreign Relations.
- Russett, Bruce and Sutterlin, James.
1990. "The UN in a New World Order." *Foreign Affairs* 70(2):69-83.
- Sibert W.L. and Stevens J.F.
1915. *The Construction of the Panama Canal*.
- Sorenson, Theodore.
1990. "Rethinking National Security." *Foreign Affairs* 69(3):7.
- TechnoServe.
1998. *Technoserve to Begin Farmer to Farmer Agroforestry Training Program in Panama*. TechnoServe January 1998.

Ullman, Richard.

1993. "Redefining Security." *International Security* 8:129-53.

U.S. Congress.

The Story of Panama, 62nd Congress, 1st sess. hearings before the Committee on Foreign Affairs of the House of Representatives. (1913).

Canal Treaties, 63rd Congress, 2nd sess., Senate Document No.456 (1914).

Report on the Problems Concerning the Panama Canal, 92nd Congress, 2nd sess. (1970), prepared for the House Committee on Merchant Marine and Fisheries, Subcommittee on Panama Canal.

Offshore installations emergency evacuation, 98th Congress, 1st sess. (1983), hearing before the Subcommittee on Panama Canal/Outer Continental Shelf. June 16.

Offshore installations emergency evacuation, 98th Congress, 2nd sess. (1984), hearing before the Subcommittee on Panama Canal/Outer Continental Shelf. Oct. 4.

Background Documents Relating to the Panama Canal, 95th Congress, 1st sess. (1977), prepared for the Senate Committee on Foreign Relations.

U.S. Department of State.

1977. *Final Environmental Impact Statement for the New Panama Canal Treaties*. Washington, D.C.: U.S. Govt. Printing Office.

Wapner, Paul.

1997. Madeline Albright remarks quoted from The U.S. State Department's Commitment to Global Environmental Protection. *Anthropology Newsletter*. September 1997.

Weiss, Thomas and Laura Holgate Hayes.

1993. Opportunities and Obstacles for Collective Security after the Cold War. In David Dewitt, David Haglund, and John Kirton (eds.) *Building a New Global Order: Emerging Trends in International Security*. New York, New York; Oxford University Press.

Wright, S. Joseph.

1996. "Long-Term Environmental Research in Panama." *Proceedings from the International Long Term Ecological Research (ILTER) Meeting*, November 10-15, 1996.

¹ The transfer of the Panama Canal from U.S. to Panamanian control on December 31, 1999 is a historical and transcendental event (Torrijos Carter Treaty 1977; Universal Congress of the Panama Canal 1997). This transfer will have consequences for the development of Panama, the USA and the world over (Ayoob 1991).

Yet, the problem of sustainability and related security and sovereignty issues is a holistic one. It is dependent upon the coordinated efforts of the canal authorities, regardless of their nationality, in association with other governmental units because the global community still has a stake in the management of the watershed.

² Nueva Granda was the colonial territory comprised of what is now the republic of Ecuador, Colombia, Panama and Venezuela.

³ In the Atlantic region of Panama rains equal approximately 117 inches (2,972 millimeters) per year.

⁴ The maximum draft for transoceanic vessels is 39 1/2 feet. The canal itself is dredged to 40 ft.