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Environmental Problems on the U.S. Military Bases in the Republic of Korea: Who Is Responsible for the Cleanup Expenses and Whose Environmental Standards Will Apply

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ENVIRONMENTAL PROBLEMS ON THE U.S. MILITARY BASES IN THE REPUBLIC OF KOREA: WHO IS RESPONSIBLE FOR THE CLEANUP EXPENSES AND WHOSE ENVIRONMENTAL STANDARDS WILL APPLY?

YUSUN WOO

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I. INTRODUCTION¹

In 2000, when an environmental organization disclosed that the United States Forces Korea (USFK) had illegally disposed of toxic chemicals at the Yongsan base mortuary in Seoul, public attention turned toward environmental issues on the United States (U.S.) military bases in the Republic of Korea (ROK).² Koreans demanded a thorough investigation into the incident and sought punishment for those responsible for the pollution of the Han River, a major source of drinking water for Seoul's 12 million citizens.³ The USFK admitted to the release and Lieutenant General Daniel Peterosky, commander of the Eighth U.S. Army, offered a formal apology for the illegal dumping.⁴ This marked the first time a U.S. commanding general offered an apology to Koreans since U.S. forces landed on the Korean peninsula 55 years ago.⁵

The USFK, however, refused to hand over the person who was responsible for the "dumping" incident, arguing that Korean courts lacked jurisdiction over U.S. service personnel under the Status of Forces Agreement (SOFA)⁶ between the U.S. and the ROK.⁷ Frustrated Korean citizens and environmental organizations staged rallies demanding that the SOFA⁸ be revised in an attempt to prevent the recurrence of similar environmental crimes by U.S. military personnel.⁹ In response, the ROK and

¹ A number of the sources cited in this note are written in Korean, but the titles have been translated. The author accepts sole responsibility for translations and citations to all non-English sources.

² Green Korea United, *Military Bases and Problems of International Environment* (Oct. 19, 2001), <http://www.greenkorea.org> (last visited May 27, 2007).

³ Soo-gyeong Song, "Shocked" by Illegal Dumping-Korean Citizens Call for SOFA Amendment, YONHAP NEWS, July 13, 2000, available at http://news.naver.com/news/read.php?mode=LSD&office_id=001&article_id=0000014808§ion_id=102&menu_id=102 (last visited May 27, 2007).

⁴ Eun-soo, Choi, *US Army Commander Apologizes for Illegal Dumping of 'Toxic Chemicals'*, MAEIL KYEONGJAE, July 24, 2000, available at http://news.naver.com/news/read.php?mode=LSD&office_id=009&article_id=0000032977§ion_id=102&menu_id=102 (last visited May 27, 2007).

⁵ *Id.*

⁶ Facilities and Areas and the Status of United States Armed Forces in Korea, U.S.-S. Korea, July 9, 1966, 17 U.S.T. 1677, available at http://www.shaps.hawaii.edu/security/us/sofa1966_1991.html#agreement (last visited May 27, 2007) [hereinafter *SOFA*].

⁷ Ji-young Jang, *Another Refusal to a Summons for the U.S. Serviceman Discharged Toxic*, KUKMIN ILBO, Mar. 18, 2002, available at http://news.naver.com/news/read.php?mode=LSD&officeid=005&article_id=0000097127§ion_id=102&menu_id=102 (last visited May 27, 2007).

⁸ *SOFA*, *supra* note 6.

⁹ Song, *supra* note 3.

the U.S. agreed to include provisions on environmental protection in the Agreed Minutes of the SOFA,¹⁰ which required U.S. bases to respect Korean environmental laws and regulations.¹¹

Despite the unprecedented apology and the SOFA amendment, more than five years later the anti-American sentiment in Korean society provoked by the toxic disposal has not fully subsided.¹² In the summer of 2006, a Korean film called “Gweomul” (English title: “The Host”), which depicted a mutant monster created by USFK’s pollutants, became a blockbuster by drawing over 13 million viewers from a population of 50 million.¹³ The plot involves a hideous monster emerging from the Han River to run amok in Seoul, devouring women and children.¹⁴ The monster resulted from the USFK release of toxic chemicals into the river.¹⁵

Both the ROK and the U.S. perceive the current anti-Americanism in Korea as a serious problem potentially jeopardizing the future of their relationship.¹⁶ The U.S. reaction to the alleged South Korean “anti-

¹⁰ SOFA, *supra* note 6.

¹¹ Amendments to the Agreed Minutes of July 9, 1966, Memorandum of Special Understandings on Environmental Protection, Regarding Facilities and Areas and the Status of United States Armed Forces in the Republic of Korea, as Amended, U.S.-S.Korea, Jan. 18 2001, available at <http://www.shaps.hawaii.edu/security/us/sofa2001.html#item6> (last visited Apr. 17, 2007) [hereinafter *Amendments to the Agreed Minutes*]. See generally Seong-cheol Oh, *ROK-US Reached an Agreement to Amend SOFA*, MAEL KYEONGJAE, Dec. 28, 2000, available at http://news.naver.com/news/read.php?mode=LSD&office_id=009&article_id=0000080379§ion_id=100&menu_id=100 (last visited May 27, 2007).

¹² See generally Soon-taek No, *No Korean Interests Reflected at the Negotiation*, OHMY NEWS, Sep. 05, 2006, available at http://www.ohmynews.com/function/portal_articleview.asp?at_code=356463 (last visited May 27, 2007); Hee-jeong Jeong, *Minister of Environment ‘Worries’ about the Success of ‘Gweomul’*, MUNHWA ILBO, Aug. 1, 2006, available at http://news.naver.com/news/read.php?mode=LSD&office_id=021&article_id=0000159153§ion_id=102&menu_id=102 (last visited May 27, 2007).

¹³ Koreanfilm.org, *The Host*, <http://www.koreanfilm.org/kfilm06.html#thehost> (last visited May 27, 2007) (reviewing the movie in English).

¹⁴ Jim Emerson, Review, *The Host* (GWOEMUL (Chungeorahm Films 2006)), CHICAGO SUN-TIMES, Mar. 9, 2007, available at <http://rogerebert.suntimes.com/apps/pbcs.dll/article?AID=/20070308/REVIEWS/703080301/1023> (last visited May 27, 2007).

¹⁵ *Id.*

¹⁶ Compare NORMAN D. LEVIN, DO THE TIES STILL BIND? US ROK SECURITY RELATIONSHIP AFTER 9/11 39-62 (RAND Corp. 2004) (suggesting that the ground of the relationship between U.S. and South Korea is shifting), and MARK E. MANYIN, SOUTH KOREAN POLITICS AND RISING “ANTI-AMERICANISM”: IMPLICATIONS FOR U.S. POLICY TOWARD NORTH KOREA, REPORT FOR CONGRESS 8, 12 (Cong. Res. Serv. 2003) (“In the late 1990s, however, criticisms of United States policy moved into the mainstream, a move that also has made anti-Americanism less ideological and more issue-specific.” *Id.* at 11.), available at

Americanism” was one of shock, and petulance – above all, because more than 53,000 Americans lost their lives during the Korean War.¹⁷ Some Americans even suggested that the U.S. “should consider withdrawing its troops from the Korean peninsula.”¹⁸ However, the current anti-Americanism has not been driven by blind hatred toward the U.S.¹⁹ As evidenced by several surveys conducted by a Korean newspaper company, most of the current anti-American activists are individuals who support the ROK-U.S. alliance;²⁰ they simply oppose U.S. policies on specific issues, such as alleged crimes committed by U.S. service personnel.²¹ They generally are not radical leftists who ideologically reject the alliance.²²

Some experts on international relations explain that the current anti-Americanism is partially attributable to the political change resulting from the younger generation dominating Korean society.²³ Younger people, particularly those between their twenties and forties, primarily have negative

http://www.nautilus.org/DPRKBriefingBook/southkorea/CRS-RL31906ROK_AntiAmericanism.pdf (last visited May 27, 2007), with Seung-Hwan Kim, *Anti-Americanism in Korea*, 26 WASH. Q. 109, 115-116 (Winter 2002/2003) (noting that there is a discrepancy between each nation’s goals that could lead to a conflict of interests and emotional resentment), available at http://www.twq.com/03winter/docs/03winter_kim.pdf (last visited May 27, 2007), and Meredith Woo-Cumings, *South Korean Anti-Americanism* (Japan Pol’y Res. Inst., Working Paper, No. 93, 2003) (arguing that the current U.S.-ROK split is a result of unraveling Cold War alliance that bound the two countries politically, economically, and militarily), available at <http://www.jpri.org/publications/workingpapers/wp93.html> (last visited May 27, 2007).

¹⁷ Woo-Cumings, *supra* note 16.

¹⁸ Alexander Cooley, *Democratization and the Contested Politics of U.S. Military Bases in Korea: Towards a Comparative Understanding*, 10 INT’L REL. STUD. 201, 206 (2005).

¹⁹ See MANYIN, *supra* note 16, at 8.

²⁰ For example, according to a poll conducted in February, 2004, by *Hankook Ilbo*, a major Korean newspaper company, only 19.7% of the Koreans surveyed responded that Korea should pursue the completely independent self-defense system by excluding the U.S. while 78.5% took a respectful stance towards the U.S.-Korean alliance. The poll also showed that 61.4% favored maintaining current U.S. force levels in Korea, 3.8% favored a complete pullout, and 33.1% favored phased withdrawals. Rae-yeong Lee, *USFK, 61% Says “Stay,” 35% Says “Leave”*, HANKOOK ILBO, Feb. 22, 2004, available at <http://news.hankooki.com/lpage/politics/200402/h2004022218362621000.htm> (last visited May 25, 2007).

²¹ MANYIN, *supra* note 16, at 9 (dividing the critics of the United States into three groups: (1) radical leftists, many of whom ideologically reject the U.S.-ROK alliance and some of whom support North Korea; (2) nationalists, who resent perceived intrusions into South Korea’s sovereignty by the United States but who do not necessarily oppose the alliance per se; and (3) individuals who support the alliance but oppose U.S. policy on specific issues, such as alleged crimes committed by U.S. servicemen).

²² *Id.*

²³ See MANYIN, *supra* note 16; Kim, *supra* note 16; Cooley, *supra* note 18.

attitudes toward the U.S.²⁴ As an illustration, Roh Moo-hyun's victory in the 2002 presidential election was, in part, due to his criticisms of the U.S.²⁵ While these young Koreans recognize the importance of the U.S.-ROK alliance for their security from North Korea, they object to the perceived arrogance and unilateral actions of the U.S. in its relationship with the ROK.²⁶ To that end, they seek a more equal and reciprocal relationship between the U.S. and the ROK.²⁷

"The ROK-U.S. alliance cannot be taken for granted."²⁸ An alliance must be based on shared interests, and more importantly, good standing.²⁹ Without these elements, an alliance is just a piece of paper.³⁰ The current anti-Americanism can be controlled if the two countries make more concerted efforts to reach out to the Korean public.³¹ "U.S. efforts to explain the concerns and intentions underlying U.S. government policies and actions to the Korean public will go a long way toward deterring further misunderstandings and bringing about a more positive perception of the United States."³² In addition, "the Korean government should take the lead in improving the image of the United States by providing accurate information and advice to the media as well as the public."³³

The alliance is in a state of evolution. For example, under an ROK-U.S. land exchange agreement, the USFK announced that it would return 170 million square meters of land, housing some forty-two military bases and installations across the country, to the ROK by 2011.³⁴ Nineteen of the bases

²⁴ Kim, *supra* note 16, at 116.

²⁵ See generally MANYIN, *supra* note 16, at 1-2, 9 (describing the 2002 election and subsequent anti-American actions by Roh).

²⁶ Kim, *supra* note 16, at 113.

²⁷ *Id.* at 115.

²⁸ MANYIN, *supra* note 16, at 11.

²⁹ See generally Brian Lai & Dan Reiter, *Democracy, Political Similarity, and International Alliances, 1816-1992*, 44 J. CONFLICT RESOL. 203, 205 (2000) (predicting international cooperation based on domestic political regimes); see also The Hankyoreh, Editorial, *U.S.-S.K. Alliance and Base Contamination* (Jul. 10, 2006), http://english.hani.co.kr/arti/english_edition/e_editorial/140046.html (last visited May 27, 2007).

³⁰ See The Hankyoreh, *supra* note 29.

³¹ See MANYIN, *supra* note 16, at 13; Kim, *supra* note 16, at 120.

³² Kim, *supra* note 16, at 120.

³³ *Id.*

³⁴ See Jung Sung-ki, *S. Korea, US Fail to Agree on Cleanup*, THE KOREA TIMES, May 29, 2006, available at http://search.hankooki.com/times/times_view.php?term=170+million+housing++&path=hankooki3/times/lpage/200605/kt2006052917375853460.htm&media=kt (last visited May 27, 2007).

were returned by 2006.³⁵ Yet, according to the report prepared by the Korean Ministry of Environment (MOE), most of the returned bases are seriously polluted with waste oil and heavy metals.³⁶ Korean media and environmental groups also have reported disturbing conditions at the returned U.S. bases from oil leakage or improper waste disposal.³⁷ Korean citizens take great interest in the outcome of the ROK-U.S. negotiations to determine which country will be responsible for the hundreds of millions of dollars in cleanup expenses.³⁸ This is problematic because the two countries have not identified the extent of the damages incurred from the contamination and remediation.³⁹ The Korean government, which has historically promoted the "Polluter Pays Principle,"⁴⁰ seems to have modified its attitude, accepting the military bases returned by the USFK earlier than scheduled, and refusing to release information to the public regarding the contamination at the sites.⁴¹ The U.S. government, which has not, to date, taken responsibility for the cleanup expenses, supports Korea's current nondisclosure policy.⁴²

³⁵ Ji-seon Lee Goh, *No Serious Pollution! Trust Me!*, OHMY NEWS, Oct. 21, 2006, available at http://www.ohmynews.com/articleview/article_view.asp?at_code=367131 (last visited May 27, 2007).

³⁶ Yong-seong Ahn, *Who Pays for the Pollution on the U.S. Military Bases?*, SEGYE ILBO, Aug. 21, 2006, available at <http://www.segye.com/Service5/ShellView.asp?TreeID=1052&PCode=0007&DataID=200608211228000054> (last visited May 27, 2007).

³⁷ See, e.g., Green Korea United, *The Environmental Problems of the US Military Bases in Korea, and its solution* (Sept. 9, 2005), http://www.greenkorea.org/zb/view.php?id=environment&page=1&sn1=&divpage=1&sn=off&ss=on&sc=on&select_arrange=headnum&desc=asc&no=27 (last visited May 27, 2007); Green Korea United, *Former U.S. Facility Polluted Soil, Water* (Nov. 30, 2000), http://www.greenkorea.org/zb/view.php?id=environment&page=3&sn1=&divpage=1&sn=off&ss=on&sc=on&select_arrange=headnum&desc=asc&no=8 (last visited May 27, 2007). The media includes Segye Ilbo, Hankyoreh, Yonhap New, Ohmy News, etc. and environmental groups include Green Korea United, Korean Federation for Environmental Movement, Solidarity for Peace and Reunification of Korea, Citizen's Solidarity for Peace and Unification, etc. See *id.*; *supra* notes 29, 34-36.

³⁸ See Ahn, *supra* note 36; Doo-seong Choi, *MBC TV 'PD Report'... U.S. Military Bases Returned*, MAEIL SHINMUN, Aug. 22, 2006, http://www.imaeil.com/sub_news/sub_news_view.php?news_id=37092&yy=2006 (last visited May 27, 2007).

³⁹ Seung-hwan Choi, *Legal Remedies for the Environmental Damages from U.S. Military Bases*, 4-2 SEOUL INT'L L. STUD. 83, 84-85 (1997).

⁴⁰ DAVID J. BEDERMAN, *INTERNATIONAL LAW FRAMEWORKS* 137 (2nd ed., West 2006).

⁴¹ Green Korea United, *The Audit and Inspection Board Dismissed the Inspection Claim of the Returned U.S. Military Bases* (Jan. 26, 2007), <http://www.greenkorea.org> (last visited May 27, 2007).

⁴² Young-geun Chae, *Problems of the Remedies for the Environmental Pollution on the U.S. Military Bases under the SOFA* (Oct. 14, 2005), <http://www.nanet.go.kr> (last visited May 27, 2007).

“The issue of cleaning up pollution on U.S. military bases must not harm the U.S.-South Korean alliance.”⁴³ However, lopsidedly burdening the ROK with cleanup expenses will not be helpful for a sound relationship between the countries.⁴⁴ The current nondisclosure approach increases many Koreans’ distrust and suspicions that the U.S. is trying to circumvent responsibility for the environmental problems, thereby aggravating anti-Americanism in the ROK.⁴⁵ The SOFA,⁴⁶ as amended in 2001 to placate the outraged public after the “dumping” incident, was not particularly helpful in allocating responsibility between the two nations due to ambiguous language and a failure to impose any legal obligations.⁴⁷ Thus, it is necessary and urgent to examine the problems of the current cleanup issue on USFK bases and seek reasonable solutions for the sake of future relations between the two countries.

This note generally addresses the problems with the environmental provisions in the ROK-U.S. SOFA as they apply to the cleanup issue on the USFK bases in the ROK.⁴⁸ Part II discusses the current status of the military bases contaminated by USFK based on reports by the MOE’s and media.⁴⁹ Part III briefly explores and evaluates the U.S. environmental policies at overseas military bases.⁵⁰ Part IV examines the environmental provisions of the ROK-U.S. SOFA in detail.⁵¹ Specifically, this section will review the debate as to whether Article IV of the SOFA gives the U.S. an exemption from the responsibility for the cleanup expense.⁵² This also reviews other SOFA provisions governing environmental remediation on the military bases, in an effort to answer the question of what standard should be applied.⁵³ The note concludes with a review of the broad policy concepts further illustrating that the U.S. should be responsible for the contamination caused on bases by its military actions located in Korea.⁵⁴

⁴³ The Hankyoreh, *supra* note 29.

⁴⁴ *Id.*

⁴⁵ See Green Korea United, *The Audit and Inspection Board Should Inspect the ROK-U.S. Negotiation about the Returned Bases* (Sep. 21, 2006), <http://www.greenkorea.org>. (last visited May 27, 2007).

⁴⁶ SOFA, *supra* note 6.

⁴⁷ See Green Korea United, *supra* note 45.

⁴⁸ See generally SOFA, *supra* note 6.

⁴⁹ See *infra* Part II.

⁵⁰ See *infra* Part III.

⁵¹ See *infra* Part IV; SOFA, *supra* note 6; Green Korea United, *supra* note 45.

⁵² See *infra* Part IV.A; SOFA, *supra* note 6.

⁵³ See *infra* Part IV.B-C; SOFA, *supra* note 6.

⁵⁴ See *infra* Part V.

II. ENVIRONMENTAL POLLUTION CAUSED BY THE U.S. MILITARY BASES IN KOREA

“USFK’s military activities impacting the environment include operation of planes or jet fighter flights, shooting, bombing, discharging toxic wastes, use of nuclear power and weapons, etc.”⁵⁵ Environmentalists in Korea claim that these activities pose a significant threat to human health and the environment.⁵⁶

Green Korea United, one of the leading environmental organizations in Korea, reported that environmental transgressions by USFK have amounted to sixty-six cases since 1990.⁵⁷ Most of the incidents involved oil leakage from negligent management of oil tanks and pipelines on USFK premises.⁵⁸ For example, the U.S. military base in Pohang (southeastern part of Korea) has continuously used eight oil storage tanks since 1953 without proper management and the 450 km (279 miles) of pipelines crossing the country have caused extensive contamination.⁵⁹ According to Green Korea United, the leaked oil is likely to contaminate at least 360,000 square meters.⁶⁰ After conducting inspections, MOE has confirmed concerns by finding serious pollution on and around the fifteen returned bases.⁶¹

A. Contamination I: Total Petroleum Hydrocarbon and BTEX

“Soil contamination is either solid or liquid hazardous substances mixed with the naturally occurring soil. Usually, contaminants in the soil are physically or chemically attached to soil particles, or, if they are not attached, are trapped in the small spaces between soil particles.”⁶² Concerns regarding soil contamination “come from the health risks associated with contact with contaminated soil and contamination of water supplies.”⁶³ Green Korea United stated that 77% of the pollution caused by USFK

⁵⁵ Choi, *supra* note 39, at 84.

⁵⁶ See Green Korea United, *Truth and Lies about the Cleanup of the U.S. Military Returned to Korea* (Nov. 10, 2006), <http://www.greenkorea.org> (last visited May 27, 2007).

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ Choi, *supra* note 39, at 88.

⁶⁰ *Id.* (assuming a leakage rate of 2 percent).

⁶¹ Ahn, *supra* note 36.

⁶² Env'tl. Prot. Agency, *Superfund for Students and Teachers: Soil Contamination*, <http://www.epa.gov/superfund/students/wastsite/soilspil.htm> (last visited May 27, 2007).

⁶³ See OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, ENVTL. PROT. AGENCY, *RISK ASSESSMENT GUIDANCE FOR SUPERFUND, HUMAN HEALTH EVALUATION MANUAL* (1991), available at <http://www.epa.gov/oswer/riskassessment/pdf/OSWERdirective9285.6-03.pdf> (last visited May 27, 2007).

involves soil contamination from the rupture of underground storage tanks and pipes, or direct discharge of toxic wastes to the soil.⁶⁴ The cleanup of soil contamination is a time consuming and expensive task accomplished through a variety of methods including treating pollution in situ, capping, and soil washing.⁶⁵

“Total petroleum hydrocarbons (TPH) is a term used to describe a large family of several hundred chemical compounds that originally come from crude oil.”⁶⁶ According to the Korean MOE report, a primary pollutant causing soil contamination on the bases was TPH.⁶⁷ High levels of TPH demonstrates USFK’s negligent management of its oil tanks and pipelines.⁶⁸ Exposure to TPH has serious health effects.⁶⁹ “The International Agency for Research on Cancer (IARC) has determined that one TPH compound (benzene) is carcinogenic to humans.”⁷⁰ Likewise, some TPH compounds affect the human central nervous system, immune system, blood, lungs, skin, and eyes.⁷¹

The MOE report identifies twenty-one of twenty-nine inspected bases exceed the maximum permissible TPH limits.⁷² For example, Camp Page in Chuncheon, Kangwon Province, was the most contaminated base with TPH concentration of 50,552 mg/kg.⁷³ This exceeds the 2,000 mg/kg “level of concern”⁷⁴ by twenty-five times and indicates a high probability of damage to human health, property, or ordinary growth of fauna and flora.⁷⁵ Considering that most of the land neighboring the U.S. military bases is

⁶⁴ See Green Korea United, *Gunsan Ari Force Base, Another Oil Leakage of Tens of Thousands Liters* (June 24, 2005), <http://www.greenkorea.org> (last visited May 27, 2007) (on file with author).

⁶⁵ See ENVTL. PROT. AGENCY, A CITIZEN’S GUIDE TO CLEANUP METHODS (2002), available at <http://www.epa.gov/tio/download/citizens/flyer.pdf> (last visited May 27, 2007); ENVTL. PROT. AGENCY, A CITIZEN’S GUIDE TO SOIL WASHING (2001), available at <http://www.epa.gov/tio/download/citizens/soilwashing.pdf> (last visited May 27, 2007).

⁶⁶ Agency for Toxic Substances & Disease Registry, *ToxFAQs for Total Petroleum Hydrocarbon* (Aug. 1999), <http://www.atsdr.cdc.gov/tfacts123.html> (last visited May 27, 2007).

⁶⁷ Green Korea United, *supra* note 56.

⁶⁸ *Id.*

⁶⁹ Agency for Toxic Substances & Disease Registry, *supra* note 66.

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² Green Korea United, *supra* note 56.

⁷³ Ahn, *supra* note 36.

⁷⁴ Unless otherwise mentioned, the “level of concern” for comparing concentrations of toxic substances at the USFK bases is the standard applicable to factories, roads, etc. (known as “Na”); the stricter standard for agricultural and farming purposes is “Ga.” *Id.*

⁷⁵ *Id.*

used for agricultural or farming purposes, the TPH pollution poses even more serious harm to human health and the environment.⁷⁶ For agricultural and farming lands, a stricter "level of concern" applies limiting TPH concentrations to 500 mg/kg, which the current concentration exceeds by *over one hundred times*.⁷⁷

BTEX, a group of chemical compounds, also contaminates the bases.⁷⁸ This chemical group is comprised of benzene, toluene, ethylbenzene, and total xylenes.⁷⁹ BTEX is causally connected to serious soil and groundwater contamination.⁸⁰ Typically, BTEX contamination is associated with petroleum and natural gas production sites and above or below ground storage tanks containing either gasoline or petroleum-related products.⁸¹

Benzene is known for its serious health effects and, as mentioned above, is classified as a human carcinogen by the U.S. Department of Health and Human Services.⁸² The inhalation of benzene at high levels may result in death, while lower levels have a causal connection to drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness.⁸³ Toluene primarily affects the nervous system, and exposure at low to moderate levels may cause drowsiness, confusion, weakness, impaired balance, nausea, and loss of appetite,⁸⁴ while inhalation at high levels may cause unconsciousness.⁸⁵ Ethylbenzene may cause irritation to the skin and mucous membranes, dizziness, throat and eye irritation, tightening of the chest, and an extreme burning sensation in the eyes from high levels of exposure in the air.⁸⁶ At very high levels, xylene affects the brain, which can

⁷⁶ Green Korea United, *supra* note 56.

⁷⁷ *Id.*

⁷⁸ PUBLIC HEALTH ASSESSMENT: MARINE CORPS AIR STATION YUMA, ARIZONA, Mar. 8, 2006, *available at* http://www.atsdr.cdc.gov/HAC/PHA/yuma/ymc_p1.html (last visited May 27, 2007).

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ ENVTL. PROT. AGENCY, UNDERGROUND STORAGE TANKS, BUILDING ON THE PAST TO PROTECT THE FUTURE, EPA 510-R-04-001, at 15 (Mar. 2004), *available at* <http://www.epa.gov/OUST/pubs/20rpt508.pdf> (last visited May 27, 2007).

⁸² U.S. DEPT OF HEALTH AND HUMAN SERVICES, DRAFT TOXICOLOGICAL PROFILE FOR BENZENE 6 (Sept. 2005), *available at* <http://www.atsdr.cdc.gov/toxprofiles/tp3.pdf> (last visited May 27, 2007).

⁸³ *Id.* at 5.

⁸⁴ 3 KIRK-OTHMER ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY 179 (Arza Seidel ed., 5th ed. Wiley-Interscience 2004).

⁸⁵ *Id.* at 179.

⁸⁶ 10A ULLMAN'S ENCYCLOPEDIA OF INDUSTRIAL CHEMISTRY 42 (Wolfgang Gernartz ed., 5th ed. Cambridge Press 1987).

cause headaches, lack of muscle coordination, dizziness, confusion, and changes in one's sense of balance, even unconsciousness and even death.⁸⁷

The Korean MOE reports that seven out of twenty-nine bases inspected exceed 80 mg/kg ("the level of concern") for BTEX.⁸⁸ The BTEX concentration at Camp Grey in Seoul amounts to 1,699 mg/kg, which is over twenty times higher than the permissible limit.⁸⁹ Three Camps near Seoul have impermissibly high concentrations: (1) Camp Colbern at 1,152 mg/kg (14 times); (2) Camp LaGuardia at 959 mg/kg (11 times); and (3) Camp Gary Owen 243mg/kg (3 times).⁹⁰

B. Contamination II: Heavy Metals

According to the Korean MOE report, U.S. military bases are also seriously contaminated with heavy metals.⁹¹ Excessive levels of heavy metals (including lead, copper, zinc, nickel, cadmium, and arsenic) are generally harmful.⁹² Symptoms of heavy metal poisoning include convulsions, palsy, insensibility, high blood pressure, liver disease, nerve or brain damage, stomach cramps, nausea, vomiting, asthma attacks, and skin irritation.⁹³ Leaking gasoline underground storage tanks may contaminate soil and underground water sources with lead, potentially causing lead poisoning.⁹⁴ Further, arsenic and its compounds are especially poisonous,⁹⁵ and exposure causes damage to the heart, liver and kidneys.⁹⁶ "Long term exposure to arsenic has been linked to cancer of the bladder, lungs, skin, kidneys, nasal passages, liver and prostate . . . [while s]hort term exposure to high doses of arsenic can cause other adverse health effects"⁹⁷

Levels of heavy metal sare found in USFK bases throughout Korea. In Paju, Gyeonggi Province, a concentration of lead 15,200 mg/kg was found

⁸⁷ A28 ULLMAN'S ENCYCLOPEDIA OF INDUSTRIAL CHEMISTRY 450-51 (Wolfgang Gernartz ed., 5th ed. Cambridge Press 1987).

⁸⁸ Green Korea United, *supra* note 56.

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² James Craner, FOOD: ITS QUALITY AND ROLE AS A PATHWAY OF EXPOSURE *in* ENVIRONMENTAL SCIENCE 490 (Stuart Brooks ed., 1995).

⁹³ *Id.* at 492-93.

⁹⁴ 13 KIRK-OTHMER ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY 153 (Jacqueline Kroschwitz ed., 4th ed. Wiley-Interscience 1995). *See also* PUBLIC HEALTH ASSESSMENT, *supra* note 78.

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ Env'tl. Prot. Agency, *Arsenic in Drinking Water: Basic Information* (Mar. 26, 2007), <http://www.epa.gov/safewater/arsenic/basicinformation.html> (last visited May 27, 2007).

at the Story Shooting Range, exceeding by 150 times the “level of concern” for agricultural and farming area standards.⁹⁸ Copper levels at the Story Shooting Range were measured at fifteen times the maximum permissible “level of concern” limits, and at Camp Falling Water in Uijeongbu, Gyeonggi Province the copper limits were exceeded by a factor of twenty-one.⁹⁹ Eight bases exceeded the maximum permissible “level of concern” for zinc.¹⁰⁰ For example, a zinc concentration of 4,421 mg/kg was found at Camp Howze, which was five times greater than the “level of concern.”¹⁰¹ The highest concentration of nickel was found at Camp Falling Water with 255 mg/kg.¹⁰² Furthermore, a concentration of 2.9 mg/kg of cadmium was detected at Camp Gary Owen.¹⁰³ The concentration of arsenic reported at Camp Walker was 14.9 mg/.¹⁰⁴ While all concentrations exceeded the agricultural standards, none of the bases exceeded the “level of concern” for or industrial area standards.¹⁰⁵

C. Contamination III: Groundwater

Soil contamination causes more serious problems when the pollutants percolate into the groundwater.¹⁰⁶ Groundwater pollution may occur through the direct application of contaminants to the soil when the soil’s filtration capacity is exceeded and/or precipitation filtering through contaminated sites leaches the contaminant into the groundwater.¹⁰⁷ Discharged soluble contaminants spread beyond their source by dispersal into the water table

⁹⁸ The “level of concern” is 100 mg/kg. Green Korea United, *supra* note 56.

⁹⁹ *Id.*

¹⁰⁰ *Id.* As for the copper concentrations, the “level of concern” is 50 mg/kg, however concentrations of 792 mg/kg were detected in the Story shooting range and 1,069 mg/kg at Camp Falling Water. *Id.*

¹⁰¹ *Id.* (detecting concentrations at Camp LaGuardia of 2,554 mg/kg, Camp Edwards of 1,824 mg/kg, Camp Gary Owen of 1,114 mg/kg, and Camp Falling Water of 964 mg/kg).

¹⁰² This is 1.5 times greater than the 160mg/kg “level of concern.” *Id.* Further, the concentration at Camp Colbern was 205mg/kg. *Id.*

¹⁰³ *Id.*

¹⁰⁴ *Id.*

¹⁰⁵ Green Korea United, *supra* note 56. The “level of concern” concentration for cadmium is 4 mg/kg, and for arsenic 20 mg/kg. *Id.*

¹⁰⁶ Craner, *supra* note 92, at 490. See J. RUSSELL BOULDING & JON S. GINN, PRACTICAL HANDBOOK OF SOIL, VADOSE, ZONE AND GROUND-WATER CONTAMINATION: ASSESSMENT, PREVENTION AND REMEDIATION 119 (CRC Press 2003). Human reliance on groundwater is increasing and contamination often occurs in densely populated areas thus making small levels of contamination a significant concern. *Id.*

¹⁰⁷ BOULDING, *supra* note 106, at 120.

and mixing through the groundwater.¹⁰⁸ “Contaminants in streams can easily affect ground-water quality, especially where streams normally seep to ground water, where ground-water withdrawals induce seepage from the stream, and where floods cause stream water to become bank storage.”¹⁰⁹ In addition to ecological concerns, widespread reliance on groundwater makes the quality of the water table significant, particularly as a supply for drinking water, agricultural irrigation, and waste disposal.¹¹⁰

The investigation conducted by the Korean Institute of Health and Environment revealed that a 2001 oil leak from a U.S. military base in Seoul continues to seep into the groundwater.¹¹¹ Groundwater near Noksapyeong, where the base was located, was examined and contamination levels exceeded the legally permissible limits from a factor of 14.8 times to a stunning 1,988 times.¹¹² Also, MOE reported groundwater near the returned bases is seriously contaminated from underground storage tanks and pipelines leaking oil.¹¹³ According to the MOE report, TPH, benzene, xylene, tetrachloroethylene, and phenol were detected in the groundwater near the bases in excess of legal limits.¹¹⁴

D. Intentional or Reckless Environmental Crimes by USFK

The number of reported environmental crimes by the USFK has almost tripled since the Han River “dumping” incident in 2000.¹¹⁵ This increase

¹⁰⁸ T.C. WINTER ET AL., U.S. GEOLOGIC SURVEY GROUND WATER AND SURFACE WATER A SINGLE RESOURCE, REPORT NO. 99-239 (1998).

¹⁰⁹ *Id.* at 66.

¹¹⁰ U.S. GEOLOGIC SURVEY, GROUND WATER FACT SHEET 93-643 (1993). “More than 50 percent of people in the United States, including almost everyone who lives in rural areas, use ground water for drinking and other household uses. Ground water is also used in some way by about 75 percent of cities and by many factories. The largest use of ground water is to irrigate crops.” *Id.*

¹¹¹ Hankyoreh, *Thorough Investigation Required for the Contamination of USFK’s Closing Bases*, (Nov. 28, 2006), <http://www.hani.co.kr/arti/opinion/editorial/174833.html> (last visited May 27, 2007).

¹¹² Jong-min Kim, ‘USFK Oil Leaks’ Noksapyeong Groundwater ‘Muddled with Benzene’, NEWSIS, Nov. 27, 2006, available at http://news.naver.com/news/read.php?mode=LSD&office_id=003&article_id=0000245465§ion_id=102&menu_id=102 (last visited May 27, 2007).

¹¹³ Green Korea United, *supra* note 56.

¹¹⁴ *Id.*

¹¹⁵ Green Korea United, *The Environmental Problems of the US Military Bases in Korea, And Its Solution: International Symposium On Environmental and Human Rights Violations Caused By U.S. Military Bases*, (Sept. 26, 2005), <http://www.greenkorea.org> (last visited May 27, 2007) (stating that the incidents increased from an average of 3.2 cases per year during the 1990’s to 8.8 cases per year after 2000).

does not necessarily mean that the USFK is actually committing more environmental crimes; rather, it means that now the Korean public pays closer attention to the pollution caused by the USFK.¹¹⁶ No matter how hard Koreans try, it is almost impossible to detect an intentional or, at a minimum, reckless environmental crime committed by USFK. Most information related to USFK, including environmental incidents, is classified as military secrets and access is very limited, even for the Korean government.¹¹⁷ Excluding reports from insiders, there are not many sources of information generally available for environmental crimes, even when the resulting damage is apparent.¹¹⁸

This lack of information may explain the overwhelming amount of public interest in the Han River “dumping” incident.¹¹⁹ Green Korea United identified Mr. Kim as the informant.¹²⁰ Mr. Kim was employed at the mortuary in the Eighth U.S. Army in Yongsan, Seoul, when Mr. Albert McFarland was working as the deputy director.¹²¹ On Feb. 9, 2000, Mr. McFarland ordered Mr. Kim and another employee to improperly drain 480 bottles of embalming fluid containing formaldehyde.¹²² Mr. Kim reported that Mr. McFarland was insistent, hurling insults at him, when Mr. Kim first refused to follow the order.¹²³

Formaldehyde is a chemical capable of causing “eye, nose, and throat irritation; wheezing and coughing; fatigue; skin rash; severe allergic reactions . . . [and may] cause cancer.”¹²⁴ “Formaldehyde has been classified as a human carcinogen . . . by the International Agency for Research on Cancer and as a probable human carcinogen by the U.S. Environmental Protection Agency.”¹²⁵ Mr. McFarland, with his level of education and his position, should be held accountable for his knowledge of the dangerous

¹¹⁶ *Id.*

¹¹⁷ See Choi, *supra* note 39, at 9-10.

¹¹⁸ *Id.*

¹¹⁹ See Green Korea United, *supra* note 115.

¹²⁰ Yong-taek No, *McFarland who Dumped Formaldehyde into Han River Promotes to Director of the Same Mortuary*, KUKI NEWS, Oct. 18, 2006, available at http://news.naver.com/news/read.php?mode=LSD&office_id=143&article_id=0000041622§ion_id=102&menu_id=102 (last visited May 27, 2007).

¹²¹ *Id.*

¹²² *Id.*

¹²³ *Id.*

¹²⁴ Env'tl. Prot. Agency, *An Introduction to Indoor Air Quality: Formaldehyde* (May 22, 2007), <http://www.epa.gov/iaq/formalde.html> (last visited May 27, 2007).

¹²⁵ National Cancer Institute, *Formaldehyde and Cancer: Questions and Answers*, Jul. 30, 2004, <http://www.cancer.gov/cancertopics/factsheet/Risk/formaldehyde> (last visited May 27, 2007).

nature of the toxic chemicals and the illegal disposal.¹²⁶ As the deputy director of the mortuary, he should have known that USFK's regulations require disposal of the toxic chemicals at a U.S. military base in Okinawa, Japan, and that no such disposal facility exists in the ROK.¹²⁷

Considering that the toxic chemical was poured into the Han river, a major source of drinking water for Seoul's 12 million citizens, and such conduct was intentional or at least reckless, one could expect severe punishment. However, McFarland's only punishment for his crime was a USFK-ordered 30-day salary reduction.¹²⁸ According to *Stars and Stripes*, an American newspaper published for the U.S. military, Mr. McFarland is still working at the same Base's mortuary (Yongsan, Garrison in Seoul) as director.¹²⁹ Had he committed the same crime in the U.S., it is imaginable that the punishment would be much more severe, in light of the vigorous environmental standards and policies in the U.S.¹³⁰ Mr. McFarland could still be subject to civil penalties and even liable for punitive damages under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA),¹³¹ and other applicable laws, or he may be prosecuted by the Department of Justice.¹³²

In early 2005, a Korean court sentenced Mr. McFarland "to two years' probation and a suspended jail sentence after being tried in absentia on charges that in 2000, he ordered two morgue workers to dump . . . a formaldehyde mixture."¹³³ The U.S., however, had been refusing to hand him over to the Korean court until now insisting that the Korean court does

¹²⁶ Seong-tae Hong, *McFarland Case and the Bitter Alliance*, JINBONURI, Jan. 9, 2004, <http://blog.naver.com/ecohope/70008707596> (last visited May 27, 2007).

¹²⁷ Myeong-gun Lee, *Albert McFarland Prosecuted without Detention*, DONGAH ILBO, Oct. 13, 2000, available at http://news.naver.com/news/read.php?mode=LSD&office_id=020&article_id=0000030532§ion_id=102&menu_id=102 (last visited May 27, 2007).

¹²⁸ Gye-chang Jo, *Mr. McFarland Promoted to the Director After Disciplinary Measure*, YONHAP NEWS, Aug. 23, 2001, available at http://news.naver.com/news/read.php?mode=LSD&office_id=001&article_id=0000094334§ion_id=102&menu_id=102 (last visited May 27, 2007).

¹²⁹ Teri Weaver, *USFK Morgue Incident Inspired S. Korean Horror Movie*, STARS AND STRIPES, Aug. 11, 2007, available at <http://stripes.com/article.asp?section=104&article=38325&archive=true> (last visited May 27, 2007).

¹³⁰ See Richard A. Phelps, *Environmental Law for Overseas Installations*, 40 A.F. L. REV. 49, 49 (1996).

¹³¹ 42 U.S.C. §§ 9620-30 (2000).

¹³² See Margaret M. Carlson, *Environmental Diplomacy: Analyzing Why the U.S. Navy Still Falls Short Overseas*, 47 NAVAL L. REV. 62, 97 (2000).

¹³³ Weaver, *supra* note 129.

not have jurisdiction over him under the SOFA.¹³⁴ While as discussed above it is hard to detect an intentional or reckless environmental crime, it is even harder to punish the perpetrators in Korean courts due to SOFA's¹³⁵ jurisdictional prophylaxis. Accordingly, many Koreans criticize the U.S. for operating its military bases "as a sovereign state-within-a-state, un beholden to the laws of Korea" or sometimes even to U.S. law.¹³⁶

III. ANALYSIS OF U.S. ENVIRONMENTAL POLICIES FOR THE OVERSEAS INSTALLATIONS AND FACILITIES IN ACCORDANCE WITH INTERNATIONAL ENVIRONMENTAL PRINCIPLES

During the twilight of the Cold War, the U.S. government initiated a process to phase out some of its 5,500 foreign military bases that became obsolete in the face of a new world order.¹³⁷ When any military bases are "converted to productive local reuse . . . the Defense Department faces the formidable task of cleaning up the contamination of land and water resources that exists at many of these facilities."¹³⁸

CERCLA¹³⁹ and the Resource Conservation and Recovery Act (RCRA)¹⁴⁰ primarily govern cleanup of past contamination at domestic military facilities.¹⁴¹ U.S. military installations and facilities overseas, however, are not subject to these statutes:

U.S. environmental statutes generally are designed to cover pollution occurring within the United States, and courts will usually presume that statutes do not apply extraterritorially unless they clearly state otherwise. As a result, whatever legal obligation the United States has to clean up its overseas bases stems from presidential executive orders or bilateral agreements with foreign countries.¹⁴²

The "environmental law" that applies to U.S. military installations and facilities overseas is quite different from the applicable U.S. domestic

¹³⁴ SOFA, *supra* note 6, at art. XXII.

¹³⁵ *Id.*

¹³⁶ Woo-Cumings, *supra* note 16.

¹³⁷ Richard A. Wegman & Harold G. Bailey, Jr., *The Challenge of Cleaning Up Military Wastes When U.S. Bases Are Closed*, 21 ECOLOGY L.Q. 865, 866 (1994).

¹³⁸ *Id.* at 867 (citing U.S. GENERAL ACCOUNTING OFFICE, PUB. NO. NSIAD-95-3, *MILITARY BASES: REUSE PLANS FOR SELECTED BASES CLOSED IN 1988 AND 1991* 18 (1994)).

¹³⁹ 42 U.S.C. §§ 9620-30.

¹⁴⁰ Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901-6992k.

¹⁴¹ Wegman & Bailey, *supra* note 137, at 882.

¹⁴² *Id.* at 924-25 (footnotes omitted).

regulatory system.¹⁴³ Compared to the well developed and clearly structured domestic environmental standards, the U.S. environmental policies at overseas bases are much more obscure and flexible, furnishing great discretion to policy makers.¹⁴⁴ In fact, the policies are often the outcome of negotiation between the countries concerned, and therefore very likely to be subject to the balance of power between the countries.¹⁴⁵ The environmental policies at overseas bases are usually much less stringent than the ones applied in the U.S. because, at overseas bases, the primary purpose of establishing a policy is to secure stable operations and local as opposed to protection of the local environment.¹⁴⁶ Critics argue that the U.S. does not "treat hazards created by the U.S. military outside of the country with the same degree of seriousness that it has accorded defense sites within its territorial borders."¹⁴⁷

For example, basic overseas environmental compliance issues differ. The U.S. Department of Defense (DoD) describes its policy for Establishing and Implementing Environmental Standards at Overseas Installations¹⁴⁸ as having "the practical effect of implementing the executive order's mandate to comply with the host country's 'pollution control standards of general applicability.'"¹⁴⁹ This directive was later updated and replaced with the Management of Environmental Compliance at Overseas Installations instruction, which established the framework for developing environmental standards for the overseas installation program currently used by the military.¹⁵⁰ In compliance with the policies, the DoD developed the Final Governing Standards (FGS), a baseline guidance document for each country with U.S. military installations, which synthesized both DoD's Overseas Baseline Guidance Document (OEBGD) and the particular host-nation

¹⁴³ Phelps, *supra* note 130, at 49 (citations omitted).

¹⁴⁴ See generally Carlson, *supra* note 132, at 78; Phelps, *supra* note 130, at 79.

¹⁴⁵ See generally Wegman & Bailey, *supra* note 137, at 929.

¹⁴⁶ Chae, *supra* note 42.

¹⁴⁷ Kim David Chanbonpin, Comment, *Holding the United States Accountable for Environmental Damages Caused by the U.S. Military in the Philippines, A Plan for the Future*, 4 ASIAN-PAC. L. & POL'Y J. 320, 349 (2003).

¹⁴⁸ OFFICE OF THE UNDERSECRETARY OF DEFENSE, DEP'T OF DEFENSE, ESTABLISHING AND IMPLEMENTING ENVIRONMENTAL COMPLIANCE AT OVERSEAS INSTALLATIONS, INSTRUCTION 6050.16, Sept. 20, 1991.

¹⁴⁹ Phelps, *supra* note 130, at 54-55.

¹⁵⁰ OFFICE OF THE UNDERSECRETARY OF DEFENSE, DEP'T OF DEFENSE, MANAGEMENT OF ENVIRONMENTAL COMPLIANCE AT OVERSEAS INSTALLATIONS, INSTRUCTION 4715.5, Apr. 22, 1996. See generally Carlson, *supra* note 132, at 77-78.

environmental law where the installation was located.¹⁵¹ The OEBGD outlines DoD's minimum environmental protection standards.¹⁵² To allow more "flexibility" for the standards, DoD merely "considered" U.S. domestic environmental standards, but did not incorporate them when developing the OEBGD.¹⁵³

Likewise, to address its overseas cleanup problems, DoD released a series of three policies culminating with the Memorandum from Deputy Secretary of Defense John P. White on October 18, 1995, entitled *Environmental Remediation Policy for DoD Activities Overseas*.¹⁵⁴ "[T]he 1995 policy is human health risk based and requires commanders to act promptly to remediate 'known, imminent, and substantial endangerments to human health and safety' caused by DoD operations, whether on or off the installation."¹⁵⁵ Under the policy, local commanders can exercise wide discretion to determine "known, imminent, and substantial endangerments to human health and safety" and whether it is necessary to fund remediation.¹⁵⁶ While local commanders must first consult with the Executive Agents in all cases before any cleanup pursuant to the policy is begun, the policy does not require commanders to consult with concerned foreign governments or organizations.¹⁵⁷

In keeping with evolving policy, the U.S. Congress has demonstrated "a clear reluctance to fund environmental restoration at overseas military installations."¹⁵⁸ Originally, the Senate bill for the National Defense Authorization Act for Fiscal Year 1991¹⁵⁹ had a very strong provision that "under no circumstances should the cost to the United States of environmental cleanup exceed the residual value of a closing overseas installation."¹⁶⁰ The provision was dropped because of a belief by Congress

¹⁵¹ DEP'T OF DEFENSE, FINAL GOVERNING STANDARDS FOR ENVIRONMENTAL PROTECTION BY UNITED STATES FORCES IN THE REPUBLIC OF SOUTH KOREA, Sept. 14, 1997. See generally Carlson, *supra* note 132, at 78.

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ OFFICE OF THE UNDERSECRETARY OF DEFENSE, DEP'T OF DEFENSE, ENVIRONMENTAL REMEDIATION FOR DoD ACTIVITIES OVERSEAS, INSTRUCTION 4715.8, Apr. 22, 1996 [hereinafter *INSTRUCTION 4715.8*]. See generally Carlson, *supra* note 132, at 80; Phelps, *supra* note 130, at 55-56.

¹⁵⁵ Phelps, *supra* note 130, at 56.

¹⁵⁶ *INSTRUCTION 4715.8*, *supra* note 154; Phelps, *supra* note 130, at 56.

¹⁵⁷ *INSTRUCTION 4715.8*, *supra* note 154; Phelps, *supra* note 130, at 79-80.

¹⁵⁸ Carlson, *supra* note 132, at 79.

¹⁵⁹ National Defense Authorization Act for Fiscal Year 1991, Pub. L. No. 101-510, 104 Stat. 1485 (1990).

¹⁶⁰ Carlson, *supra* note 132, at 79 (citing S. REP. NO. 101-384, at 298).

that “the environmental restoration of bases used by the United States in foreign countries is a host nation responsibility.”¹⁶¹ In the Act,¹⁶² Congress mandated the DoD “develop a policy for determining the responsibilities of the DoD with respect to cleaning up environmental contamination that may be present at military installations located outside the United States,” but supporting funding for such cleanups was not provided.¹⁶³ It is foreseeable that overseas installation commanders, who retain wide discretion for cleanup determination with a limited budget, would be forced to avoid paying of out-of-pocket costs when an overseas defense facility is closed.¹⁶⁴ DoD typically “seeks to hold the host country liable for the ‘residual value’ of the facility calculated by subtracting host country remediation claims from the current . . . value of the facility.”¹⁶⁵

As Wegman and Bailey point out in their article, *The Challenge of Cleaning Up Military Wastes When U.S. Bases Are Closed*, the U.S. approach to the cleanup at overseas military bases has “two major problems.”¹⁶⁶ First, DoD’s current policy to remedy “known, imminent, and substantial endangerments to human health and safety” does not provide clear standards other than expressing a general desire to limit U.S. expenditures.¹⁶⁷ Accordingly, the vaguely defined “known, imminent, and substantial endangerments to human health and safety” confers great discretion to U.S. local commanders in Korea.¹⁶⁸ Furthermore, the lack of congressional funding makes it impossible to establish consistent and fair standards.¹⁶⁹ DoD does not “earn” money to support its operations; its funding is totally dependent on congressional will.¹⁷⁰ As mentioned before, the U.S. Congress appears indifferent to provide reasonable standards as long as the DoD manages the cleanup cost without out-of-pocket expenditures.¹⁷¹ Perhaps the phrase “known, imminent, and substantial

¹⁶¹ *Id.* (citing H.R. REP. NO. 101-923, at 707).

¹⁶² National Defense Authorization Act of Fiscal Year 1991 § 342(b)(2).

¹⁶³ Carlson, *supra* note 132, at 79 (citing Lt. Col. Richard A. Phelps, USAF, ENVIRONMENTAL LAW FOR DEPARTMENT OF DEFENSE INSTALLATIONS OVERSEAS III 12 (1998)).

¹⁶⁴ *Id.* at 101.

¹⁶⁵ Wegman & Bailey, *supra* note 137, at 929-30.

¹⁶⁶ *Id.* at 933.

¹⁶⁷ Chae, *supra* note 42.

¹⁶⁸ Phelps, *supra* note 130, at 79.

¹⁶⁹ See Carlson, *supra* note 132, at 80.

¹⁷⁰ *Id.* at 101.

¹⁷¹ See *id.*

endangerments to human health and safety” encompasses only what expenses the U.S. can afford to address within tight budgetary constraints.¹⁷²

Second, the U.S. approach to environmental concerns at overseas military bases conflicts with international environmental principles.¹⁷³ “The international obligation of nations to abate environmental damage has been established, beginning with the 1941 international arbitration in the *Trail Smelter* case.”¹⁷⁴ The case involved a dispute between the U.S. and Canada, where the “United States claimed that Canada should accept State responsibility for the air pollution caused by a private [Canadian] smelter company,” and the arbitral tribunal found for the U.S. and awarded damages.¹⁷⁵ “Although the *Trail Smelter* ruling was defined in the context of a narrowly prescribed arbitration proceeding, it is widely cited for the customary international environmental law proposition that ‘no state may allow its territory to be used in a way that causes environmental injury to the territory of another state.’”¹⁷⁶

Another international environmental law principle is the notion of “the Polluter Pays,” enunciated in the 1970’s, meaning the polluting party should be the one to pay for the damage done to the natural environment.¹⁷⁷ The principle gained recognition on the international stage as evidenced by its “prominent inclusion in the most important and far-reaching international statement of the fundamental principles of environmental law . . . ” of international treaties.¹⁷⁸ Further, the Stockholm Declaration¹⁷⁹ and the Rio Declaration on Environment and Development¹⁸⁰ incorporate the notion, and the principle provides that “States have . . . the responsibility to ensure that activities within their jurisdiction and control do not cause damage to the

¹⁷² See generally Carlson, *supra* note 132; Phelps, *supra* note 130; Wegman & Bailey, *supra* note 137.

¹⁷³ Wegman & Bailey, *supra* note 137, at 933.

¹⁷⁴ *Id.* at 933-934 (citing Trail Smelter Arbitral Tribunal, 35 AM. J. INT’L L. 684 (1941)).

¹⁷⁵ Chanbonpin, *supra* note 147, at 356-57 (footnote omitted).

¹⁷⁶ *Id.* at 357 (footnote omitted).

¹⁷⁷ Jonathan Remy Nash, *Too Much Market? Conflict Between Tradable Pollution Allowances and the “Polluter Pays” Principle*, 24 HARV. ENVTL. L. REV. 465, 466 (2000).

¹⁷⁸ *Id.* at 471.

¹⁷⁹ U. N. Conference on the Human Environment, Stockholm, Swed., June 5-16, 1972, *Declaration of the United Nations Conference on the Human Environment*, U.N. Doc. A/ CONF.48/14 (June 16, 1972), reprinted in 11 I.L.M. 1416 (1972).

¹⁸⁰ U. N. Conference on Environment and Development, Rio de Janeiro, Braz., June 3-14, 1992, *Rio Declaration on Environment and Development*, U.N. Doc. A/ CONF.151/26 (June 14, 1992), reprinted in 31 I.L.M. 874 (1992).

environment of other States”¹⁸¹ The U.S. Restatement (Third) of the Law of Foreign Relations Section 601(1)(a) acknowledges a State’s obligation to “conform to generally accepted international rules and standards for the prevention, reduction, and control of injury to the environment of another state or of areas beyond the limits of national jurisdiction.”¹⁸²

Applying these international environmental principles to the issue of overseas military base cleanup can be more complicated.¹⁸³ Because a foreign military base in a state is not working for its own unilateral and exclusive benefit, the allocation of responsibility for contamination is likely to be quite murky.¹⁸⁴ Host nations can receive “economic, political and national security benefits from the operation of a U.S. military base located within its territory.”¹⁸⁵ It is true that the host nation and the U.S. should shoulder some degree of joint responsibility to the environment.¹⁸⁶ Perhaps it is also true that the “Polluter Pays” principle should be the starting point for negotiations to allocate responsibilities between the host nation and the nation sending troops.¹⁸⁷

IV. AGREEMENTS BETWEEN THE ROK AND THE U.S. REGARDING ENVIRONMENTAL PROBLEMS OF U.S. MILITARY BASES IN THE ROK

In 2003, Green Korea United reported that there were 101 U.S. military bases and about 30,000 U.S. troops stationed on the Korean Peninsula.¹⁸⁸ According to the report of Green Korea United, the USFK was using: thirty-nine of the bases for housing army, navy, and air force camps; sixteen for training grounds; fourteen for communication facilities; and twenty-five for other purposes including an ammunition storage, postal service, a recreation center.¹⁸⁹ These facilities and the accompanying personnel are governed by

¹⁸¹ Wegman & Bailey, *supra* note 137, at 933 (citing U.N. Environment Programme, *United Nations Convention on Biological Diversity* (Jan. 5, 1992), reprinted in 31 LL.M. 818, 824 (1992)).

¹⁸² RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 601 (a)(1) (1987).

¹⁸³ See generally Randon H. Draper, *Attacking Military Environmental Cleanup on Foreign Soil: Should CERCLA Principles Apply?*, 12 BUFF. ENVTL. L.J. 53, 84 (2004).

¹⁸⁴ *Id.*

¹⁸⁵ *Id.* at 82.

¹⁸⁶ *Id.* at 84.

¹⁸⁷ See, e.g., *id.* at 81; Nash, *supra* note 177, at 137.

¹⁸⁸ Green Korea United, *Reports on the Status of the U.S. Military Bases in South Korea* (Aug. 8, 2005), <http://www.greenkorea.org> (last visited May 27, 2007) (relying on DoD documents, but noting that the Korean government does not provide any formal document showing the exact status of the USFK).

¹⁸⁹ *Id.*

the SOFA.¹⁹⁰ “The SOFA addresses issues such as the right of primary criminal jurisdiction over U.S. members of the force, claims of force protection and the use of deadly force, entry and exit requirements, customs and taxes, contracts, vehicle licensing and registration, and communication support.”¹⁹¹ It does not directly address environmental issues.

A. Debates over Article IV of the ROK-U.S. SOFA: Is the USFK Responsible for U.S. Military Base Cleanup in Korea?

Although the general text of the ROK-U.S. SOFA is silent on the environmental problems caused by the USFK,¹⁹² Article III Paragraph 3 contains a general principle for operating the installations by stipulating that “[o]perations in the facilities and areas in use by the Government of the United States shall be carried on with due regard to the public safety.”¹⁹³ More importantly, Article IV of the SOFA¹⁹⁴ addresses the issue in connection with the responsibilities of the U.S. upon return of the facilities,¹⁹⁵ and Paragraph 1 provides:

The Government of the United States is not obliged, when it returns facilities and areas to the Government of the Republic of Korea on the expiration of this Agreement or at an earlier date, to restore the facilities and areas to the condition in which they were at the time they became available to the United States armed forces, or to compensate the Government of the Republic of Korea in lieu of such restoration.¹⁹⁶

The U.S. relies on this provision when denying responsibility for pollution when returning bases to the ROK.¹⁹⁷ In an interview in Segye Ilbo, a Korean newspaper, U.S. Colonel Daniel M. Wilson, the U.S. Chairperson of the SOFA Environmental Subcommittee and the SOFA Facilities and Areas Subcommittee, confirmed the U.S. position that the ROK and the U.S. should follow the mutual agreement not to oblige the U.S. to restore the

¹⁹⁰ SOFA, *supra* note 6.

¹⁹¹ Draper, *supra* note 183, at 65-66 (citing SOFA, *supra* note 6).

¹⁹² Chae, *supra* note 42.

¹⁹³ SOFA, *supra* note 6, at art. III, para. 3.

¹⁹⁴ *Id.*

¹⁹⁵ *Id.* at art. IV.

¹⁹⁶ *Id.*

¹⁹⁷ Feature Articles Team, *Reports on the Pollution of the U.S. Military Bases: The Interview with Col. Wilson of SOFA Subcommittee*, SEGYE ILBO, Dec. 5, 2004, available at <http://www.segye.com/Service5/ShellView.asp?TreeID=1510&PCode=0007&DataID=200412062130000312> (last visited May 27, 2007).

facilities and areas or compensate Korea for restoration under Article IV, Paragraph 1.¹⁹⁸ Thus, the U.S. argues Article IV, Paragraph 1 should govern the environmental remediation responsibilities of the U.S. bases in the ROK.

However, in 1966, when the SOFA was signed,¹⁹⁹ neither the ROK nor the U.S. were focused on environmental concerns; indeed, “[m]ost military bases were built before ‘environment’ was a household word.”²⁰⁰ The text of Article IV does not address any environmental concerns or any reference to what might be construed as an environmental cleanup requirement.²⁰¹ Therefore, it can be argued that the U.S. assertion that Article IV is applicable to environmental problems of U.S. military bases does not reflect the original intent behind the agreement.

Looking to the original intent of the signatory countries is consistent with the 1969 Vienna Convention on the Law of Treaties (VCLT).²⁰² According to Article XXXI of the VCLT, “[a] treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in light of its object and purpose.”²⁰³ Furthermore, “in order to confirm the meaning resulting from the application of [Article XXXI],” Article XXXII provides “[r]ecourse may be had to supplementary means of interpretation, including the preparatory work of the treaty and the circumstances of its conclusion.”²⁰⁴

As negotiators from neither the U.S. nor the ROK appear to have taken environmental issues into consideration when drafting SOFA,²⁰⁵ exempting the U.S. from responsibility for environmental problems caused by the USFK cannot be within “the ordinary meaning to be given to the terms” or “in the context” of the treaty.²⁰⁶ Rather, the intent of the provision appears to

¹⁹⁸ *Id.*

¹⁹⁹ SOFA, *supra* note 6.

²⁰⁰ Draper, *supra* note 183, at 66 (citing Michael Allan Waters, JAGC, U.S. Navy, Closure of U.S. Military Bases Overseas: International-Environmental Law Implications (Fall 1998) (unpublished L.L.M. dissertation) (on file with author)).

²⁰¹ See SOFA, *supra* note 6.; see also *infra* note 209 and accompanying text.

²⁰² Vienna Convention on the Law of Treaties art. 6, May 23, 1969, 8 I.L.M. 679, 1155 U.N.T.S. 331 (governing the formation, interpretation, and termination of treaties between states), available at http://untreaty.un.org/ilc/texts/instruments/english/conventions/1_1_1969.pdf (last visited May 27, 2007). See also Outline of Submissions on Behalf of the Office of the United Nations High Commissioner for Refugees, 19 INTERNATIONAL JOURNAL OF REFUGEE LAW 360, 361 (2007).

²⁰³ Vienna Convention on the Law of Treaties, *supra* note 202, at art. XXXI.

²⁰⁴ *Id.* at art. XXXII.

²⁰⁵ SOFA, *supra* note 6.

²⁰⁶ Vienna Convention on the Law of Treaties, *supra* note 202, at art. XXXI, par. 1.

be aimed at preventing the inconvenience and waste from obligating the U.S. to restore construction sites, such as buildings, roads and storage units, to previous conditions.²⁰⁷

Similarly, the Korean Constitutional Court ruled in 2001 that Article IV of the SOFA²⁰⁸ did not allow the U.S. to return facilities and areas to the ROK without addressing U.S. pollution treatment responsibilities.²⁰⁹ The Court recognized that the provisions of the entire SOFA,²¹⁰ including Article IV, do not provide regulations or obligations to protect human health and the environment.²¹¹ As summarized by Young-geun Chae, the Court concluded that “[t]herefore, Article IV of the SOFA does not grant any authority for the United States to contaminate the facilities and areas received from the ROK or to return them ‘as it is’ when they are polluted.”²¹²

Under basic international law concepts, it is a State’s duty to interpret treaties in good faith when there is a disagreement about the meaning of words in a treaty.²¹³ Indeed, if the U.S. were to take the position that its interpretation is always correct, “no government would be safe in dealing with the United States.”²¹⁴ Further interpretations of the SOFA, however, do not closely adhere to this requirement. The United States also relies on Article IV, Paragraph 2 which provides:

The Government of the Republic of Korea is not obliged to make any compensation to the Government of the United States for any improvements made in facilities and areas or for the buildings and structures left thereon the expiration of this Agreement or the earlier return of the facilities and areas.²¹⁵

The U.S. argues that its exemption from the obligation to restore or compensate for environmental damage on its military bases is “in exchange

²⁰⁷ Seung-hwan Choi, *Problems of the Environmental Provisions of the ROK-U.S. SOFA and Suggestion for the Improvement* (Oct. 14, 2005), <http://www.nanet.go.kr> (last visited May 27, 2007).

²⁰⁸ SOFA, *supra* note 6.

²⁰⁹ Chae, *supra* note 42.

²¹⁰ SOFA, *supra* note 6.

²¹¹ Chae, *supra* note 42.

²¹² *Id.*

²¹³ Vienna Convention on the Law of Treaties, *supra* note 202, at art. XXXI.

²¹⁴ Amy Grunder, *Legal Issues: Treaties, SOFAs, and ACSAs: Panel Presentations*, Policy Seminar Summary of Military Base Closure/Cleanup Conference (Oct. 26, 1999) (introducing Article 63 of the *German SOFA*, see *infra* note 224), available at [http://www.fpiif.org/base_cleanup/II_Policy_Seminars-Legal_Issues_\(edited_version\).pdf](http://www.fpiif.org/base_cleanup/II_Policy_Seminars-Legal_Issues_(edited_version).pdf) (last visited May 27, 2007).

²¹⁵ SOFA, *supra* note 6, at art. IV, para 2.

of” the improved value it made on the bases or the residual value of the property (the “offset” approach).²¹⁶

The argument essentially reflects the DoD’s desire “to deal with environmental damage to overseas installations slated for closure as an ‘offset’ to the value of the property being returned” to Korea.²¹⁷ Normally, when the U.S. military closes overseas installations, the host country taking control of the facilities pays the U.S. for the “current value” of the improvements made by the U.S.²¹⁸ The U.S. maintains that the ROK, instead of paying off the current value or residual value subtracted by the environmental remediation expenses, instead is “allowed” to give up its remediation claims.²¹⁹

The U.S. “offset” approach seemingly relies on two U.S. presumptions. The first presumption is that the current value or residual value the ROK owes the U.S. is proportional to the environmental remediation expenses to address the pollution concerns. This requires an accounting of how much current or residual value the ROK has obtained through U.S. improvements to the bases. These improvements may include roads, buildings, underground storage tanks, and some military facilities.²²⁰ Most of the returned bases, however, are likely to be redeveloped and sold to civilians or used for public purposes such as entertainment centers or public parks.²²¹ The U.S. military improvements to the bases are not very valuable to the ROK because the expense to remove these improvements and redevelop the sites usually imposes financial burdens as opposed to benefits to the ROK.²²²

Koreans often compare the Korean SOFA²²³ with the German SOFA which has a provision that actually requires the U.S. to pay for the “assessment, evaluation, and remedying of hazardous substance contamination caused” by it.²²⁴ In response, the U.S. explains that the key

²¹⁶ Segye Ilbo interview with Col. Wilson, Dec. 12 2004, *available at* <http://www.segye.com/Service5/ShellView.asp?TreeID=1258&PCode=0001&DataID=200412070305000001> (last visited May 27, 2007).

²¹⁷ Carlson, *supra* note 132, at 80.

²¹⁸ *Id.*

²¹⁹ *Id.*

²²⁰ Chae, *supra* note 42.

²²¹ Green Korea United, *Let’s Get Out of USFK’s Shadow and Prepare for the Hope* (Jan. 19, 2006), <http://www.greenkorea.org> (last visited May 27, 2007).

²²² Chae, *supra* note 42.

²²³ SOFA, *supra* note 6.

²²⁴ Agreement to Supplement the Agreement Between the Parties to the North Atlantic Treaty Regarding the Status of Their Forces with Respect to Foreign Forces Stationed in the Federal

difference between the Korean SOFA²²⁵ and the German SOFA²²⁶ is the German government has a reciprocal obligation to compensate the U.S. for the facilities within U.S. bases.²²⁷ However, it was the U.S.'s responsibility, where a base was slated for civilian purposes upon return, to remove any military facilities that lacked application for civilian use.²²⁸ Given the circumstances, it appears the "residual value" should be determined on the basis of future usefulness and validity for the host country. For some bases at least, the residual value is not proportional to the environmental remediation expenses. Therefore, the U.S.'s rigid approach of disregarding these important differences between individual bases when calculating the "residual value" is erroneous and unfair.

The second presumption is that the U.S. claims absolute unencumbered property rights in the land and any improvements. Three arguments counter this second presumption, discussed in turn below.

First, the ROK, not the U.S., retains ownership of U.S. military bases in the ROK.²²⁹ Commentator Randon Draper states "[t]he host nation is the property owner and landlord of the property which the U.S. military leases by treaty."²³⁰ It therefore follows that the U.S. must return the facilities and areas to the ROK upon termination of the lease. Real estate values in the ROK have surprisingly been rising since 1953 when the U.S. started stationing its troops in Korea.²³¹ Such a rise is attributable to many factors other than U.S. troop stationing including, but not limited to, economic development and urbanization.²³² Accordingly, the increases in real estate values attributable to these factors should not be included in the valuation of improvements the U.S.

Republic of Germany, U.S.-F.R.G., Aug. 3, 1959, 14 U.S.T. 531, art. 63 [hereinafter *German SOFA*]. See generally Grunder, *supra* note 214.

²²⁵ *SOFA*, *supra* note 6.

²²⁶ *German SOFA*, *supra* note 224.

²²⁷ See Park Kwang-ok, *Misunderstandings and Truths on Return of U.S. Bases*, DEFENSE DAILY, July 21, 2006, available at <http://www.usfk.mil/org/fkpa/News/newsArchive.asp?id=120> (last visited May 27, 2007).

²²⁸ Chae, *supra* note 42 (citing the agreement to return Rhein-Main Air Force Base in Frankfurt and Gateway Gardens housing facilities, and to perform and provide capital for the construction of Spangdahlem and Ramstein air force bases).

²²⁹ Jeong-eun Park, *Is the Base Realignment to Pyongtaek for Yongsan Garrison?* (May 22, 2006), <http://blog.naver.com/philobiblic?Redirect=Log&logNo=90004880873>.

²³⁰ Draper, *supra* note 183, at 82.

²³¹ Jasper Kim, *Anti-Speculation Laws and Their Impact on the Real Estate and Financial Markets: The Korean Case*, 18 COLUM. J. ASIAN L. 47, 48 (2004).

²³² Joseph T. L. Ooi & Liow Kim-Hiang, *Risk-Adjusted Performance of Real Estate Stocks: Evidence from Developing Markets*, 26 J. REAL EST. RES. 371 (2004).

Second, a fair assessment of the residual value requires examining the benefit the U.S. enjoyed during its lease of the military bases in Korea.²³³ The USFK retains over 100 military bases in the ROK, and some of them have been used as a military base since the 1950s.²³⁴ For the bases with improvements that were used, the USFK should not be able to assert the full residual value or the residual value should be minimal due to amortization of the improvements' value. In the U.S., a local government may eliminate non-conforming use "as long as the use is allowed to exist for long enough to *amortize the cost of the owner's investment*."²³⁵ For example, in *City of Los Angeles v. Gage*, the California Court of Appeals stated that "use of a reasonable amortization scheme provides an equitable means of reconciling the conflicting interests"²³⁶ Likewise, if the U.S. has enjoyed benefits from the improvements for a reasonable period so that the investment for the improvements has been amortized, the U.S.'s right to the improvements should, in good faith and for equitable reasons, be decreased proportionally.

Third, a fair assessment of the residual value requires inquiry into who paid for the improvements. According to the report prepared by Professor Cheol-ki Lee at Dongkuk University, Korea, total payments by the ROK since 1989 equals 6.4 billion dollars.²³⁷ Jong-in Im, a member of the National Assembly, points out in his report presented to the National Assembly Standing Committee that this amount covers only the annual requests by the USFK, the so-called "Share of Defense Expenditure."²³⁸ In addition, the ROK has complied with the U.S. requests to pay other expenses such as support for real estate purchases and facility improvements.²³⁹ According to the report, the ROK has paid 22.4 billion dollars over 18 years.²⁴⁰ This amount exceeds 200 billion dollars, which is equal to the sum total of U.S. assets in Korea (including saving resources for

²³³ See M. Victoria Bayoneto, Note, *The Former U.S. Bases in the Philippines: An Argument for the Application of U.S. Environmental Standards to Overseas Military Bases*, 6 FORDHAM ENVTL. L.J. 111, 154 (1994).

²³⁴ See Green Korea United, *Reports on the Status of the U.S. Military Bases in South Korea* (Aug. 8, 2005), <http://www.greenkorea.org> (last visited May 27, 2007).

²³⁵ Christopher Serkin, *Local Property Law: Adjusting the Scale of Property Protection*, 107 COLUM. L. REV. 883, 916 (2007) (citing *City of Los Angeles v. Gage*, 274 P.2d 34, 44 (1954) and *Nat'l Adver. Co. v. City of Raleigh*, 947 F.2d 1158, 1164 n.6 (4th Cir. 1991)).

²³⁶ *City of Los Angeles*, 274 P.2d at 44.

²³⁷ In-hwan Jeong, *Get Rid of the Term "Share of Defense Expenditure,"* HANKYOREH, Nov. 27, 2006, available at <http://www.hani.co.kr/section-021106000/2006/12/021106000200612270641012.html> (last visited May 27, 2007).

²³⁸ *Id.*

²³⁹ *Id.*

²⁴⁰ *Id.*

war time).²⁴¹ This report also indicates the ROK has paid 36,219 dollars per U.S. serviceman, which is roughly equivalent to U.S. per capita Gross Domestic Product (GDP) of 39,722 dollars, and far exceeds Korean per capita GDP of 14,161 dollars.²⁴² The immense financial support the ROK has supplied to the USFK should thus be taken into consideration and set off against any U.S. claim of value in the improvements on the military bases. It is absurd to argue that the ROK must “repurchase” the improvements on the bases when it has already paid for them.

B. The Environmental Provision of the ROK-U.S. SOFA and Memorandum of Special Understandings on Environmental Protection: Do They Provide Sufficient Standards to Regulate Environmental Problems in U.S. Military Bases?

In 2001, the ROK and the U.S. reached an agreement reflected in the SOFA Agreed Minutes, Article III Paragraph 2,²⁴³ that provides:

The United States Government and the Republic of Korea Government recognize and acknowledge the importance of environmental protection in the context of defense activities in the Republic of Korea under the Mutual Defense Treaty of 1953. The United States Government commits itself to implementing this Agreement in a manner consistent with the protection of the natural environment and human health, and confirms its policy to respect relevant Republic of Korea Government environmental laws, regulations, and standards. The Republic of Korea Government confirms its policy to implement its environmental laws, regulations, and standards with due regard for the health and safety of United States personnel.²⁴⁴

This provision marks the first time that environmental concerns have appeared in the Korean SOFA.²⁴⁵

The ROK and the U.S. also developed the Memorandum of Special Understandings on Environmental Protection, which established governing

²⁴¹ Korean Ministry of Defense Document, Korean Defense Expenditure for the Future, *cited in* In-hwan Jeong, *Get Rid of the Term “Share of Defense Expenditure,”* HANKYOREH, Nov. 27, 2006, available at <http://www.hani.co.kr/section-021106000/2006/12/021106000200612270641012.html> (last visited May 27, 2007).

²⁴² *Id.* (noting that other expenses are included, except the “Share of Defense Expenditure”).

²⁴³ *Amendments to the Agreed Minutes, supra* note 11.

²⁴⁴ *Id.*

²⁴⁵ Chae, *supra* note 42.

standards, and addressed information sharing and access, environmental performance standards, and environmental consultation.²⁴⁶ According to the Memorandum, the ROK and the U.S. “will continue their efforts to protect the environment through cooperating in a periodic review and update of the Environmental Governing Standards [hereinafter EGS].”²⁴⁷ It also provided that the two countries should work together to exchange important information affecting the health and environment.²⁴⁸ The Memorandum also gave the authority to establish an Environmental Subcommittee of the Joint Committee for the purpose of discussing environmental issues, information exchange, appropriate access to facilities and areas, joint surveys, monitoring, and post-incident evaluations.²⁴⁹ Finally, it obligated the U.S. to conduct periodic environmental performance assessments, evaluate the environmental aspects of USFK’s operations, and promptly undertake to remedy contamination caused by the USFK that posed “a known, imminent, and substantial endangerment to human health” under the Memorandum.²⁵⁰

Despite these agreements to address environmental problems at U.S. military bases, the provisions do not provide sufficient guidelines for establishing environmental policies at these bases. As evidenced in the first environmental provision in the 2001 ROK-U.S. SOFA, the Korean government placed a high value on the outcome as a significant achievement for environmental concerns of U.S. military bases.²⁵¹ However, the word “respect” in Article III Paragraph 2 of Agreed Minutes, is simply aspirational, and not legally binding. It simply means that “I can respect your opinion, but I do not have to observe it.”²⁵² Other agreements regarding environmental remediation of U.S. military bases are equally non-binding, containing “will” as opposed to “shall” language.²⁵³ Considering that the words “must” or “shall” generally are deemed to be imperative or mandatory in a U.S. law,²⁵⁴ the frequent use of the word “will” instead of

²⁴⁶ *Amendments to the Agreed Minutes*, *supra* note 11.

²⁴⁷ *Id.*

²⁴⁸ *Id.*

²⁴⁹ *Id.*

²⁵⁰ *Id.*

²⁵¹ *Amendments to the Agreed Minutes*, *supra* note 11. See also Hankuk Ilbo, *Now It's a Comfortable SOFA (sofa)* (Dec. 28, 2000), http://news.naver.com/news/read.php?mode=LSD&office_id=038&article_id=0000042900§ion_id=100&menu_id=100 (last visited May 27, 2007) (reporting on an interview with Min-sun Song, Dir. of the N. Am. Dep't of the Ministry of Foreign Affairs).

²⁵² Grunder, *supra* note 214, at 1.

²⁵³ *Amendments to the Agreed Minutes*, *supra* note 11.

²⁵⁴ 82 C.J.S. *Statutes* § 368 (2006).

“shall” appears to demonstrate the U.S. intent to not be bound by the agreements.

The U.S. has declared that it will remedy only “known, imminent, and substantial endangerments to human health and safety” on the military bases under Memorandum of Special Understandings on Environmental Protection.²⁵⁵ As mentioned earlier, the “known, imminent, and substantial endangerments to human health and safety” standard is nothing but a device used to minimize U.S. expenditures.²⁵⁶ Green Korea United used an incident in 2003 as an example to illustrate these inconsistencies in the standards: the USFK announced that Arirang Taxi Site in Seoul had “known, imminent, and substantial endangerments to human health and safety” with a TPH concentration of 11,365 ppm while bases with much higher levels of TPH were not considered to pose such threats.²⁵⁷ The reported TPH concentrations at other bases were 50,552 ppm (Camp Page), 47,819 ppm (Camp Gerry Owen), 23,724 ppm (Camp Stanton), 29,072 ppm (Camp Greaves), and 27,901 ppm (Camp Howze).²⁵⁸ Considering that TPH was the main pollutant at the Arirang Taxi Site, USFK’s conclusions appear to be quite contradictory.²⁵⁹ Further, the report states that MOE received no written document supporting the U.S. commander’s evaluation that concluded no such imminent and substantial threats were found on other bases.²⁶⁰

The environmental provision and the Memorandum follow almost exactly the U.S. environmental policies governing all U.S. forces overseas, and have the effect of unilaterally ignoring Korean perspectives.²⁶¹ By contrast, the German SOFA,²⁶² which is the most reciprocal of all U.S. SOFAs, has additional language that specifically states that German environmental laws shall apply to all U.S. military personnel and operations.²⁶³ The Korean SOFA could follow this model because the bases remain Korean territory and thus subject to ROK sovereignty, even though the U.S. has direct control. According to the current treaties between the two

²⁵⁵ Green Korea United, *Issues on the Cleanup of U.S. Military Bases* (May 11, 2006), <http://www.greenkorea.org> (last visited May 27, 2007).

²⁵⁶ See *supra* notes 167-158 and accompanying text. See generally Carlson, *supra* note 132; Phelps, *supra* note 130; and Wegman & Bailey, *supra* note 137.

²⁵⁷ Green Korea United, *supra* note 45.

²⁵⁸ *Id.*

²⁵⁹ *Id.*

²⁶⁰ *Id.*

²⁶¹ Chae, *supra* note 42.

²⁶² *German SOFA*, *supra* note 224.

²⁶³ Chae, *supra* note 42.

countries, neither the sending nor the host states' environmental law applies to the military bases.²⁶⁴ While extraterritoriality prevents the application of U.S. environmental law to the bases in Korea unless otherwise agreed by both parties,²⁶⁵ nothing prevents the application of the Korean law to the Korean territory. It is unfair and unreasonable to allow more pollution simply because the territory is controlled by a foreign force. This is especially because environmental pollution causes serious property damages as well as being a significant threat to human health.²⁶⁶ Thus, it should be standard practice for a sending state to abide by the host state's laws.

This practice also complies with the U.S. position confirmed by U.S. Colonel Daniel M. Wilson, the U.S. Chairperson of the SOFA Environmental Subcommittee and the SOFA Facilities and Areas Subcommittee, in an interview with Segye Ilbo, a Korean newspaper.²⁶⁷ Col. Wilson told Segye Ilbo that there are three important sets of rules governing the USFK operation in Korea: SOFA, U.S. laws and DoD policies and regulations, and ROK laws.²⁶⁸ He said that to come up with overall operation guidance for U.S. forces, the USFK starts with U.S. policy, which governs all U.S. forces overseas, and compares it with Korean environmental laws and standards.²⁶⁹ Finally, the USFK adopts whichever of the two "is the most strict."²⁷⁰

Under this approach, the USFK should adopt the Korean Soil Environment Preservation Act (KSEPA),²⁷¹ which is stricter than America's "known, imminent, and substantial endangerments to human health and safety" standard.²⁷² KSEPA "aims to prevent damage to human health and the environment due to soil contamination and to properly control soil quality and productivity."²⁷³ It provides that if soil contamination exceeds

²⁶⁴ See generally *SOFA*, *supra* note 6.

²⁶⁵ See generally William S. Dodge, *Understanding the Presumption Against Extraterritoriality*, 16 *BERKELEY J. INT'L L.* 85 (1998); Wegman & Bailey, *supra* note 137, at 929-30.

²⁶⁶ See *supra* Part II.

²⁶⁷ See Feature Articles Team, *supra* note 197.

²⁶⁸ *Id.*

²⁶⁹ *Id.*

²⁷⁰ *Id.*

²⁷¹ Soil Environment Preservation Act, Law No. 4906 (2004) (S. Korea), available at http://www.lawnb.com/lawinfo/law/info_law_searchview.asp?ljo=l&lawid=00290200 (last visited May 27, 2007).

²⁷² *Amendments to the Agreed Minutes*, *supra* note 11.

²⁷³ REPUBLIC OF KOREA MINISTRY OF ENV'T., ENVIRONMENTAL LAWS OF THE MINISTRY OF ENVIRONMENT, 1 (2001) (citing Soil Environment Preservation Act, Law No. 4906),

the “level of concern” the land should be cleaned by “registered soil cleaners”.²⁷⁴ To decide whether soil contamination of certain land exceeds the “level of concern,” a professional institute should inspect the land.²⁷⁵ These standards are more protective of Koreans and the environment, and should be utilized.

C. Tab A to the Joint Environmental Information Exchange and Access Procedures

The ROK and the U.S. entered into the Joint Environmental Information Exchange and Access Procedure in 2002 (JEIEP).²⁷⁶ This agreement provides procedures for environmental survey and consultation on remediation for facilities and areas designated to be granted or returned.²⁷⁷ The Co-chairpersons of the SOFA Environmental Subcommittee are required to establish an Environmental Joint Working Group to execute actions under these procedures.²⁷⁸

The most frequently criticized provision of the agreement is Paragraph 7, which provides that “[a]ny release of information to the media or public on this process or the specific information exchange and surveys conducted under this process requires approval by the Co-Chairpersons of the Environmental Subcommittee.”²⁷⁹ Even though Korean citizens and environmental organizations are stridently demanding full disclosure of environmental problems on U.S. military bases, the Korean government has been refusing to disclose survey results and remedial measures for the environmental problems even on the returned bases.²⁸⁰ The explanation for this non-disclosure is that the U.S. Chairperson of the SOFA Environmental Committee requested the Committee keep the information classified under the Paragraph 7 of the JEIEP.²⁸¹ Korean citizens are highly critical of the

available at <http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN009445.pdf> (last visited May 27, 2007).

²⁷⁴ Soil Environment Preservation Act, Law No. 4906, art. IV § 2 and art. 15 § 3. Exceeding the “level of concern” indicates high probability of damage to human health and property or ordinary growth of fauna and flora. *Id.* at art. IV § 2.

²⁷⁵ Republic of Korea Ministry of Environment, *supra* note 273.

²⁷⁶ Chae, *supra* note 42.

²⁷⁷ Green Korea United, *Tab A to the Joint Environmental Information Exchange and Access Procedures, U.S.-S. Korea* (May 30, 2003), <http://greenkorea.org> (last visited May 27, 2007).

²⁷⁸ Chae, *supra* note 42.

²⁷⁹ *Id.*

²⁸⁰ Chae, *supra* note 42.

²⁸¹ *Id.*

decision because the Korean government maintains the non-disclosure policy even after the return of the military bases from the USFK.²⁸²

Non-disclosure of public information not only violates Korean Constitutional Law in Art. 21, which guarantees Korean people's right to information,²⁸³ but it also violates the Korean legal principle that requires public agencies to disclose information.²⁸⁴ Similarly, the U.S. Freedom of Information Act sets out rules on access to information or records held by government bodies that prohibits nondisclosure of information without a valid reason to do so.²⁸⁵ Also, CERCLA – the U.S. environmental law – imposes a duty upon the contaminator to publish a notice of the proposed plan to the public and provide a reasonable opportunity for public participation.²⁸⁶ CERCLA governs cleanup of military bases in the U.S.²⁸⁷ These standards, applicable in the U.S. and mirrored in Korea, should govern the cleanup of U.S. military bases in Korea.

The right to information has exceptions.²⁸⁸ According to Article IX Paragraph 1 of the Korean Public Agency Information Disclosure Act (KPAID), non-disclosure of information is permissible when such non-disclosure is prescribed by other laws or orders of a law.²⁸⁹ Since the SOFA does not contain any provision that gives privilege for non-disclosure of public information to the Joint Committee,²⁹⁰ arguably it should not authorize the non-disclosure policy.²⁹¹ Article IX Paragraph 2 of KPAID confers another exception for non-disclosure when disclosure of the information considerably harms the nation's great interest.²⁹²

²⁸² Seung-sub Kim, *Citizens Severely Attack the Government for Its Inefficiency Regarding the Handover of the Military Bases from the USFK*, DAILIAN, July 18, 2006, available at http://www.dailian.co.kr/news/n_view.html?id=39450 (last visited May 27, 2007).

²⁸³ CONST. S. KOREA. Art. XXI.

²⁸⁴ Chae, *supra* note 42. See Public Agency Information Disclosure Act, Law No. 7127, art. III (2004) (S. Korea), available at http://www.lawnb.com/lawinfo/law/info_law_searchview.asp?ljo=l&lawid=00022010.

²⁸⁵ 5 U.S.C. § 552 (2000). See Chae, *supra* note 42.

²⁸⁶ 42 U.S.C. §§ 9620-30.

²⁸⁷ *Id.* See generally OFFICE OF THE UNDERSECRETARY OF DEFENSE, DEP'T OF DEFENSE, ENVIRONMENTAL RESTORATION PROGRAM, INSTRUCTION 4715.7, Apr. 22, 1996, available at http://www.dtic.mil/whs/directives/corres/pdf/i47157_042296/i47157p.pdf (last visited May 27, 2007).

²⁸⁸ Chae, *supra* note 42.

²⁸⁹ Public Agency Information Disclosure Act, art. IX ¶ 1.

²⁹⁰ SOFA, *supra* note 6.

²⁹¹ Chae, *supra* note 42.

²⁹² Public Agency Information Disclosure Act, art. IX ¶ 2.

It seems that the Korean government is taking advantage of vague language of the exceptions; it has been refusing to release any information to the public regarding the environmental consequences of the military bases polluted by the USFK to protect “the nation’s great interest.”²⁹³ Lawmakers as well as Korean media and citizen’s groups fiercely criticized the Korean government when it once again refused to provide the requested information on the polluted bases at a National Assembly Environment and Labor Committee hearing.²⁹⁴ On June 13, 2007, a very interesting court decision attracted great attention as the appellate court reaffirmed the lower court’s holding that required the government to release the results of an environmental survey conducted on a USFK base in Chuncheon.²⁹⁵ The court stated that the government did not provide any evidence to prove that the release would adversely affect the government’s ability to negotiate with the U.S. to allocate the cleanup responsibilities.²⁹⁶ The information on the environmental survey includes who conducted the research; when it was conducted; what the researchers inspected; how much the base was contaminated; remediation plans; research costs; and who paid for the research.²⁹⁷ The court also refuted the government’s argument that, without reaching an agreement with the U.S., the survey results should not be released according to the terms of *Tab A to the Joint Environmental Information Exchange and Access Procedures*.²⁹⁸ Because the agreement between the two governments was signed by chairpersons of a SOFA subcommittee and has never been ratified by the Korean National Assembly,

²⁹³ See generally Hye-mi Sung, *National Assembly Environment and Labor Committee: “Plan to File a Lawsuit Against the Minister of Environment if Refuse to Provide USFK Bases Information”*, YONHAP NEWS, June 15, 2007, http://news.naver.com/news/read.php?mode=LSD&office_id=001&article_id=0001667472§ion_id=102&menu_id=102 (last visited May 27, 2007); Jae-nam Kim, Green Korea United, *Looking Forward to the Hearing on Environmental Pollution of the USFK Bases*, SEOUL SHINMUN, June 25, 2007, available at <http://www.seoul.co.kr/news/newsView.php?id=20070625030003> (last visited May 27, 2007).

²⁹⁴ *Id.*

²⁹⁵ See Green Korea United, *Court Decision Requiring the Government to Release the Information on the USFK Bases*, YONHAP NEWS, June 13, 2007, http://news.naver.com/news/read.php?mode=LSD&office_id=098&article_id=0000233439§ion_id=117&menu_id=117 (last visited May 27, 2007).

²⁹⁶ Jung-Yun Jeon, *Appellate Court Order to Release Environmental Survey Results*, HANKYOREH, June 13, 2007, available at <http://www.hani.co.kr/section-021106000/2006/12/021106000200612270641012.html> (last visited Aug. 25, 2007).

²⁹⁷ *Id.*

²⁹⁸ Mi-yeon Shin, *Court Order to Release the Environmental Survey Results*, SEGYE ILBO, June 15, 2007, available at <http://www.segye.com/Service5/ShellView.asp?TreeID=1052&PCode=0007&DataID=200706142103000369> (last visited May 27, 2007).

the court denied the agreement's authority to grant the government the power to refuse information release.²⁹⁹

V. CONCLUSION

Current environmental rules governing overseas U.S. military bases do not give sufficient guidance for cleanup expenses, responsibilities, and remediation procedures for bases in Korea. First, the U.S. DoD's only "known, imminent, and substantial endangerments to human health and safety"³⁰⁰ policy has been demonstrated to be unfair and inconsistently applied. Second, it is not clear how much "respect" will be accorded to be given to Korean environmental law. Third, the nondisclosure principle³⁰¹ of the Environmental Subcommittee further undermines the function of the rules by obscuring exact damages and remediation plans.

These flawed environmental and procedural rules, combined with the special status of a U.S. military base, absolutely eliminate any incentive of USFK to observe not only cleanup rules but also environmental regulations for an operating base. The USFK enjoys the privilege of exemption from liability, at least from the Korean side, because the Korean government lacks jurisdiction. We know, from the McFarland case, that the U.S. would not punish its forces for an environmental crime overseas as seriously as it would for the same crimes committed in the U.S., and therefore, fails to deter such a crime on Korean soil. Furthermore, the consequences of pollution on the bases will not be disclosed to the public, as even the Korean government needs permission from the U.S. government to disclose any information about the bases.³⁰² It is naïve to believe that a law will be well observed when there is no clear standard, proportional punishment, or risk of public disclosure.

Korean society has gone through a series of internal changes. Besides its startling economic development that made it one of the most advanced industrialized countries, Korea is now in a new era of political openness and tolerance.³⁰³ Authoritarian rulers were replaced by opposition figures, beginning in 1997 with the election of former political dissident, Kim Dae Jung, and different actors have appeared on the scene such as: new

²⁹⁹ *Id.*

³⁰⁰ Phelps, *supra* note 130, at 56.

³⁰¹ See notes 45-46 and accompanying text.

³⁰² See Green Korea United, *Tab A to the Joint Environmental Information Exchange and Access Procedures, U.S.-S. Korea* (May 30, 2003), <http://greenkorea.org> (last visited May 27, 2007).

³⁰³ Cooley, *supra* note 18, at 209-10.

politicians, new media, citizens' groups, and non-governmental organizations.³⁰⁴ The availability of innovative information technology, evidenced by high percentage of per capita cell phone usage or Internet access, has made "political networking and campaigning much easier, less costly and effective for the new actors."³⁰⁵ Decisions concerning foreign policy that, in the past, used to be dominated by a set of elites are now publicly aired and debated, and the U.S. military base issue is one of the topics of this debate.³⁰⁶ It is not just a few elite leaders any longer, but a great number of Korean citizens that the U.S. has to deal with as it addresses the military base issue in Korea. The U.S. government as well as the Korean government should realize that the ROK-U.S. alliance means nothing without their citizens' support.

It could be argued that international environmental principles alone provide sufficient grounds to establish the U.S. responsibility to provide a remedy for the pollution that it caused on military bases in Korea. Yet to prevent the U.S. from shirking its responsibility for cleanup expenses onto the ROK, it is necessary to go further and stipulate an unequivocal and binding provision in a treaty towards that end. The fact that the U.S. forces are not using these facilities and areas for its own exclusive benefit does not amount to an exoneration of U.S. responsibility. Likewise, the U.S. assertion that it is relieved from environmental responsibility because it did not intend to address environmental concerns at the time of the agreement (reflected in the text of Article IV of the ROK-U.S. SOFA) is fallacious as an assertion that Korea has never granted the U.S. any authority or right to pollute Korean natural resources without recourse.³⁰⁷ Therefore, the U.S. should admit its responsibility for the cleanup expenses and undertake negotiations with the ROK to allocate responsibility for the expenses in good faith. The comparative ratio of the USFK operation expenditures and the amortization rate of the facilities and areas by the USFK should be considered, as well as economic and security benefit brought by the USFK. Appointment of an arbitrator could be an effective mechanism in case of any disputes.³⁰⁸

³⁰⁴ *Id.* at 212.

³⁰⁵ *Id.*

³⁰⁶ Manyin, *supra* note 16.

³⁰⁷ SOFA, *supra* note 6.

³⁰⁸ Choi, *supra* note 207.