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**AGROTERRORISM AND ECOTERRORISM:
A SURVEY OF INDO-AMERICAN APPROACHES UNDER LAW
AND POLICY TO PREVENT AND DEFEND AGAINST
THESE POTENTIAL THREATS AHEAD**

*Kevin H. Govern**

Terrorism exploits the freedom our open societies provide, acting to destroy our freedoms. The United States and India must work together in all possible forums to counter all forms of terrorism. We cannot be selective in this area. We must fight terrorism wherever it exists, because terrorism anywhere threatens democracy everywhere.¹

In the war on terrorism, the fields and pastures of America's farmland might seem at first to have nothing in common with the towers of the World Trade Center or busy seaports. In fact, however, they are merely different manifestations of the same high-priority target, the American economy.²

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¹ U.S. Department of State, Text of Dr. Manmohan Singh's Address to the Joint Session of the U.S. Congress, <http://www.america.gov/st/washfile-english/2005/July/200507261027051CJsamohT0.3803217.html> [hereinafter Singh] (last visited Mar. 1, 2009); see also N. Ravi, *India, U.S. Must Make Common Cause Against Terrorism: Manmohan Singh*, HINDU (India), July 20, 2005, at Front Page, available at 2005 WLNR 11391762.

² Stan Cox, "Agroterrorists" Needn't Bother, COMMONDREAMS.ORG, Dec. 13, 2005, <http://www.commondreams.org/views05/1213-26.htm> (quoting U.S. Senator Susan Collins).

I. INTRODUCTION

“Agroterrorism is a subset of bioterrorism, and is defined as the deliberate introduction of an animal or plant disease with the goal of generating fear, causing economic losses, and/or undermining social stability.”³ Its *partner in crime* is ecoterrorism, “the use or threatened use of violence of a criminal nature against innocent victims or property by an environmentally-oriented, subnational group for environmental-political reasons, or aimed at an audience beyond the target, often of a symbolic nature.”⁴ Furthermore, “[a]s recently as June 2004, the FBI designated ‘eco-terrorism’ . . . as the [U.S.] number one militant challenge emanating from inside its own borders.”⁵

India is the world’s fourth largest agricultural power, with agriculture representing about twenty percent of India’s Gross Domestic Product (GDP)⁶ and employing almost two-thirds of the active population. With the largest number of livestock in the world, India is one of the world leaders in production of milk, fruits, vegetables, wheat, rice, tea, cotton, and sugar.⁷ By comparison, agricultural production comprises only about one percent of the U.S. GDP, however that production accounts for sixty percent of the world’s total agricultural production,

³ JIM MONKE, CONG. RESEARCH SERV., AGROTERRORISM: THREATS AND PREPAREDNESS 1 (2007), available at <http://www.fas.org/sgp/crs/terror/RL32521.pdf>.

⁴ Federal Bureau of Investigation, James F. Jarboe, “The Threat of Eco-Terrorism,” Testimony of James F. Jarboe, Domestic Terrorism Section Chief, Counterterrorism Division, FBI Before the U.S. House Resources Committee, Subcommittee on Forests and Forest Health February 12, 2002, <http://www.fbi.gov/congress/congress02/jarboe021202.htm> [hereinafter Jarboe] (last visited Mar. 1, 2009).

⁵ PETER CHALK ET AL., RAND CTR. FOR TERRORISM RISK MGMT. POLICY, TRENDS IN TERRORISM: THREATS TO THE UNITED STATES AND THE FUTURE OF THE TERRORISM RISK INSURANCE ACT 47 (2005), available at http://www.rand.org/pubs/monographs/2005/RAND_MG393.pdf. Author’s note: The many definitions and interpretations of terrorism point out obvious challenges to interagency action.

⁶ The Federation of International Trade Associations, India, <http://www.fita.org/countries/india.html> (last visited Mar. 1, 2009); see also Macro-economic Overview of India: Agriculture, <http://indiaonestop.com/economy-macro-agro.htm> (last visited Mar. 1, 2009) (“Agriculture’s share in India’s GDP has declined in recent years, thus marking a structural shift in the composition of the GDP. Traditionally, agriculture accounted for two-fifths of the GDP, but in recent times it has witnessed a declining trend.”).

⁷ *Id.*

including the largest production of cheese, corn, soybeans, and tobacco in the world, more wheat and corn exported than any other nation, and the third leading exporter of rice.⁸

Agroterrorism's first order effect would be the disruption of Indian or U.S. agricultural sectors. Killing farm animals, contaminating vegetation, and disrupting supplies of unadulterated natural resources may become the means to the diabolical ends of causing economic damage, social unrest, and loss of confidence in government.⁹

While India and the U.S. have not yet been directly assailed by large-scale agroterrorist and ecoterrorist threats, both the events of September 11, 2001 and November 26-29, 2008, in the United States and India respectively, were unforgettable terrorist acts that took lives and destroyed property on a heretofore unthinkable scale. Both the U.S. and India face the very real potential that international terrorists, military opponents, economic opportunists, domestic terrorists or criminals, and militant animal rights activists will at some point in the future bring their tentative plans to fruition as *positive* events furthering their agendas.¹⁰ As both nations combat crime and terrorism domestically and abroad, laws and policies at the state and federal levels have been passed and international cooperation undertaken to prevent, defend against, and prosecute such actions.¹¹

⁸ The Federation of International Trade Associations, United States, <http://fita.org/countries/us.html> (last visited Mar. 1, 2009) ("Though agriculture contributes only [one percent] the GDP but produces [sixty percent] of the world's agricultural production but benefits from huge subsidies. It is the largest producer of cheese, corn, soybeans, and tobacco in the world. It is also the world's leading exporter of wheat and corn, and ranks third in rice exports."); see Appendix 1 for "Continental U.S. Agriculture, by Location."

⁹ See MONKE, *supra* note 3, at 1 ("The goal of agroterrorism is not killing cows or plants. These are the means to the end of causing economic crises in the agricultural and food industries, social unrest, and loss of confidence in government.").

¹⁰ See generally Ravi, *supra* note 1 ("Prime Minister Manmohan Singh . . . said that India and the U.S. must make common cause against terrorism whose rise was threatening open societies more than ever before.").

¹¹ See, e.g., *id.* (mentioning the U.S.-India Global Democracy Initiative was created to "help build democratic capacities in all societies" and "[n]oting that democratic societies with established institutions must help other nations strengthen their democratic values and institutions").

This article will survey such efforts in India and the U.S., with the suggestion of a three-pronged, combined, interagency approach to preventing agroterrorist and ecoterrorist attacks, enabling both nations to forge ahead in this critical effort.

II. THE CHALLENGE: TO DEFINE TERRORISM, LET ALONE AGROTERRORISM OR ECOTERRORISM

The history of mankind has been replete with acts by individuals, groups, and states whereby the end result was to create fear, economic losses, and/or an undermining of social and political stability.¹² These acts have come about despite cultural and religious exhortations and legal prohibitions against violence to man and beast alike, contaminating the environment, or adulterating resources used for man's benefit.¹³

Without delving into ancient history and terroristic acts, not then called terrorism, we find the birth of the term *terrorism* during the post-French Revolution Jacobins Reign of Terror 1793-1794—the French word *terrorisme* found root in the Latin verb *terrere* (causing to tremble).¹⁴ Stanford University's *Encyclopedia of Philosophy* notes that by “the second half of the [nineteenth] century, there was a shift in both

¹² See e.g., MONKE, *supra* note 3, at 1 (citing the terrorist attack in the United States on September 11, 2001).

¹³ See e.g., MARTIN PALMER WITH VICTORIA FINLAY, WORLD BANK, FAITH IN CONSERVATION: NEW APPROACHES TO RELIGIONS AND THE ENVIRONMENT, at xiii, available at <http://siteresources.worldbank.org/INTBIODIVERSITY/214584-1112712965549/20480342/FaithInConservationNewApproachesPreface2003.pdf> (“Imagine you are busy planting a tree, and someone rushes up to say that the Messiah has come and the end of the world is nigh. What do you do? The advice given by the rabbis in a traditional Jewish story is that you first finish planting the tree, and only then do you go and see whether the news is true. The Islamic tradition has a similar story . . .”). Palmer and Finlay have been cited with authority for scholarship into well-known, popular religious texts, as determining elements for helping turn failing environmental management policies into success. See F. Dahdouh-Guebas et. al., *Analysing Ethnobotanical and Fishery-Related Importance of Mangroves of the East-Godavari Delta (Andhra Pradesh, India) for Conservation and Management Purposes*, 2 J. ETHNOBIOLOGY & ETHNOMEDICINE 24 (2006), available at <http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=1475843&blobtype=pdf>.

¹⁴ Stanford Encyclopedia of Philosophy, Terrorism, § 1.1.1, <http://plato.stanford.edu/entries/terrorism/> (last visited Mar. 1, 2009).

descriptive and evaluative meaning of the term” to include anarchy and other revolutionary activities, as well as nationalist group violence, including: “extreme, dramatic deeds that would strike at the heart of the unjust, oppressive social and political order, generate fear and despair among its supporters, demonstrate its vulnerability to the oppressed, and ultimately force political and social change.”¹⁵

Among many of the world’s representative religious faiths, terrorism targeting agriculture and ecological resources would be anathema.¹⁶ Vegetarians, vegans, and animal rights activists, too, will cite with authority religious tracts and tenets as authoritative sources in opposition to violence against nature and agricultural resources.¹⁷ For instance, in Hinduism, from the epic Bhagavad Gita (The Lord’s Song), comes the admonition that “One is dearest to God who has no enemies among the living beings, who is nonviolent to all creatures.”¹⁸ From the Rig-Veda 6:48:17 comes: “[d]o not cut trees, because they remove pollution.”¹⁹ From the Yajur-Veda 5:43 comes: “[d]o not disturb the sky and do not pollute the atmosphere[,]” and from Charak Sanhita that: “[d]estruction of forests is taken as destruction of the state, and reforestation an act of rebuilding the state and advancing its welfare. Protection of animals is considered a sacred duty.”²⁰ Mahavira, founder of the Jain religion said “[m]ay all that have life be delivered from suffering.”²¹ The Jain scripture, called the Yogashastra, offers the first truth of Jainism that “[n]on-injury to all living beings is the only religion[,]” from the Sila-Prabhrita comes: “[m]ercy to living beings, self restraint,

¹⁵ *Id.*

¹⁶ See Dahdouh-Guebas et al., *supra* note 14, at 36 (noting that “the message of the Bhagavad Gita” which is “the dialogue between the Hindu Lord Sri Krishna . . . and his intimate disciple” is to “conserve ecology or perish”).

¹⁷ See, e.g., American Vegetarian, Quotable Quotes, <http://spot.acorn.net/av/avquotes.html> (last visited Mar. 1, 2009) (listing religious quotes that vegetarians use as arguments in support of vegetarianism); see also Animal Rights Quotes, <http://www.animalliberationfront.com/Saints/Authors/Quotes/SortQuotesRelig.htm> (last visited Mar. 1, 2009) (listing religious quotes that animal rights activists use as arguments against killing animals).

¹⁸ *Id.* (“Sanskrit word ahimsa means nonharm to all life.”).

¹⁹ C.G. Weeramantry, *Islam, Buddhism, Hinduism and the Environment*, ENERGY BULL., July 7, 2007, <http://www.energybulletin.net/node/32153>.

²⁰ *Id.*

²¹ Animal Rights Quotes, *supra* note 18.

truth, honesty, chastity and contentment, right faith and knowledge, and austerity are but the entourage of morality.”²² Jews and Christians find in Genesis (*Bereshit* in Hebrew) 1:29 God’s command that “[b]ehold I have given you herbyielding seed. To you it shall be for meat.”²³ Another version of that same verse says “[a]nd God said, [b]ehold, I have given you every herb-bearing seed which is upon the face of the earth, and every tree in which is the fruit of a tree yielding seed: to you it shall be as meat”²⁴ Also from Isaiah 66:3, “[h]e that slayeth an ox is as if he slew a human.”²⁵ For Muslims, the Qur’an’s Surah 6:38 sets forth that “[t]here is not an animal on the earth, nor a flying creature on two wings, but they are people like unto you.”²⁶

In modern times, agroterrorism expert Steve Cain notes that during armed conflict, cultural and religious impediments to agroterrorism and ecoterrorism, let alone legal restraints, have been overcome in warfare between and among various states.²⁷ Specifically, during World War I, German forces “clandestinely inoculated horses and mules being shipped from U.S. ports to the Allies with anthrax and glanders”²⁸ (albeit causing no instances of human illness) and attempted to “[i]nfect draft, cavalry, and military livestock between 1915 and 1918 in Romania, Spain, Norway, Argentina, and the U.S.”²⁹ “This was part of Germany’s larger biological sabotage program,” and “Japan is alleged to have used animal and plant pathogens, including rinderpest and anthrax, against Russia and Mongolia in 1940.”³⁰

²² *Id.*

²³ American Vegetarian, *supra* note 18, at 1.

²⁴ Animal Rights Quotes, *supra* note 18, at 4.

²⁵ *Id.* at 5.

²⁶ *Id.* at 9.

²⁷ See generally STEVE CAIN, PURDUE U., AGROTERRORISM: A PURDUE EXTENSION BACKGROUNDER, Sept. 24, 2001, <http://www.ces.purdue.edu/eden/disasters/agro/Agroterrorism.doc> (citing 1 JULIAN PERRY ROBINSON & MILTON LEITENBERG, STOCKHOLM INT’L PEACE RESEARCH INST., THE PROBLEM OF CHEMICAL AND BIOLOGICAL WARFARE: THE RISE OF CB WEAPONS, 216-17 (1971)) (discussing several instances of agroterrorism and ecoterrorism during World War II).

²⁸ *Id.* at 3.

²⁹ *Id.*

³⁰ *Id.*

Russia's Bolsheviks and Germany's Nazi Party exercised state acts to evoke terror, and by the "1930s and 1940s [and beyond], internal state terrorism continued to be practiced by military dictatorships in many parts of the world," while insurgents and so-called freedom fighters sometimes came to portray their acts of violence as "struggle for liberation and [sought] to be considered and treated as soldiers rather than terrorists or criminals."³¹

Cain noted how the instrumentalities for agroterrorism and ecoterrorism came into the fore "during World War II, [as] Canada, Great Britain, Japan, the United States, and the USSR studied many animal and plant diseases for offensive and defensive programs."³²

Biological research persisted beyond the 1972 Biological Weapons Convention (BWC); the U.S. continued defensive research, the Soviet biological weapon (BW) program "grew during the 1970's and 1980's," and Iraq was "known to have developed a BW potential"³³

The world's legal landscape is replete not only with those international laws and conventions addressing biological and toxic weapons threats, but also with laws and policies regarding terrorism. Over a dozen United Nations (UN) conventions and protocols relate to and define terrorism,³⁴ not counting national laws or other regional treaties and

³¹ Stanford Encyclopedia of Philosophy, *supra* note 15, § 1.1.4.

³² CAIN, *supra* note 28, at 2. "Anthrax, brucellosis, and glanders, which are both antipersonnel and antianimal agents, were all evaluated for mass production. Defensive work was [also] done on rinderpest, Newcastle disease, and fowl plague."

"Crop diseases evaluated and/or produced for potential agroterrorism included: late blight of potato, rice blast, brown spot of rice, rubber leaf blight, Southern blight, and wheat rusts." *Id.*

³³ *Id.* at 2-3 (citing TOM MANGOLD & JEFF GOLDBERG, PLAGUE WARS: A TRUE STORY OF BIOLOGICAL WARFARE 65 (1999) and KEN ALIBEK & STEPHEN HANDELMAN, BIOHAZARD 273 (1999)).

³⁴ See, e.g., International Convention for the Suppression of Acts of Nuclear Terrorism, G.A. Res. 59/290, U.N. Doc. A/RES/59/290 (April 13, 2005), available at http://untreaty.un.org/English/Terrorism/English_18_15.pdf; International Convention for the Suppression of the Financing of Terrorism, G.A. Res. 54/109, U.N. Doc. A/RES/54/109 (Dec. 9, 1999), available at <http://www.un.org/law/cod/finterr.htm>; International Convention for the Suppression of Terrorist Bombings, Dec. 15, 1997, 2149 U.N.T.S. 256, available at <http://untreaty.un.org/English/Terrorism/Conv11.pdf>;

agreements!³⁵ Just selecting one such regional agreement, article 1 of the European Union's Council Framework Decision on Combating Terrorism includes in its definition of *terrorism* the aim of "destabilising or destroying the fundamental political, constitutional, economic or social

Convention on the Marking of Plastic Explosives for the Purpose of Detection, Mar. 1, 1991, 2122 U.N.T.S. 359, *available at* <http://treaties.un.org/doc/db/Terrorism/Conv10-english.pdf>; Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, Mar. 10, 1988, 1678 U.N.T.S. 221, *available at* <http://untreaty.un.org/English/Terrorism/Conv8.pdf>; Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf, Mar. 10, 1988, 1678 U.N.T.S. 303, *available at* <http://untreaty.un.org/English/Terrorism/Conv9.pdf>; Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation, Sept. 23, 1971, 974 U.N.T.S. 177, *available at* <http://untreaty.un.org/English/Terrorism/Conv3.pdf>; Convention on the Physical Protection of Nuclear Material, Mar. 3, 1980, 1456 U.N.T.S. 125, *available at* <http://untreaty.un.org/English/Terrorism/Conv6.pdf>; International Convention against the Taking of Hostages, Dec. 17, 1979, 1316 U.N.T.S. 205, *available at* <http://untreaty.un.org/English/Terrorism/Conv5.pdf>; Convention on the Prevention and Punishment of Crimes against Internationally Protected Persons, including Diplomatic Agents, Dec. 14, 1973, 1035 U.N.T.S. 167, *available at* <http://untreaty.un.org/English/Terrorism/Conv4.pdf>; Convention for the Suppression of Unlawful Seizure of Aircraft, Dec. 16, 1970, 1973 U.N.T.S. 106, *available at* <http://untreaty.un.org/English/Terrorism/Conv2.pdf>; Convention on Offences and Certain Other Acts Committed on Board Aircraft, Sept. 14, 1963, 704 U.N.T.S. 219, *available at* <http://untreaty.un.org/English/Terrorism/Conv1.pdf>).

³⁵ See, e.g., Convention of the Organization of the Islamic Conference on Combating International Terrorism, Res. No. 59/26-P, Annex (July 1, 1999), *available at* <http://www.arabhumanrights.org/publications/regional/islamic/iconf-combating-terrorism99e.pdf>; OAU Convention on the Prevention and Combating of Terrorism, July 14, 1999, 2219 U.N.T.S. 179, *available at* <http://untreaty.un.org/English/Terrorism/oaue.pdf>; Treaty on Cooperation among the States Members of the Commonwealth of Independent States in Combating Terrorism, June 4, 1999, *available at* <http://treaties.un.org/doc/db/Terrorism/csi-english.pdf>; Arab Convention on the Suppression of Terrorism, April 22, 1998, *available at* Columbia University Press, Columbia International Affairs Online, http://www.ciaonet.org/cbr/cbr00/video/cbr_ctd/cbr_ctd_27.html (last visited Mar. 1, 2009); SAARC Regional Convention on Suppression of Terrorism, Nov. 4, 1987, *available at* <http://treaties.un.org/doc/db/Terrorism/Conv18-english.pdf>; European Convention on the Suppression of Terrorism, January 27, 1977, 1137 U.N.T.S. 93, *available at* <http://treaties.un.org/doc/db/Terrorism/Conv15-english.pdf>; OAS Convention to Prevent and Punish the Acts of Terrorism Taking the Form of Crimes against Persons and Related Extortion that are of International Significance, Feb. 2, 1971, 1438 U.N.T.S. 93, *available at* <http://treaties.un.org/doc/db/Terrorism/Conv16-english.pdf>.

structures of a country”³⁶ Focusing on Indo-American approaches, international and domestic political considerations shaped the debates in India and in the U.S. over respective antiterrorism laws.³⁷ Notably, those political considerations include the “UN Security Council’s efforts to implement and enforce Resolution 1373, the mandatory resolution adopted after the September 11, 2001 terrorist attacks under Chapter VII of the UN Charter.”³⁸ Fordham Law School Professor Anil Kalhan makes the distinction that, “[t]he Resolution does not define ‘terrorism’ or ‘terrorist acts,’ leaving each state to define those terms for itself.”³⁹ Kalhan aptly notes that “Resolution 1373 also ‘calls upon’ states to become parties to the [then] twelve existing international conventions and protocols concerning terrorism”⁴⁰

Even though national and international lawmakers have “extensively legislated against ‘terrorism’ and ‘terrorist acts,’” Kalhan notes that the precise definition of those terms “has been a major challenge.”⁴¹

Professor Kalhan categorizes India’s laws combating terrorism into three groupings:

- (1) constitutional provisions and statutes authorizing the declaration of formal states of emergency and the use of special powers during those declared periods, (2) constitutional provisions and statutes authorizing preventive detention during non-emergency periods, and (3) sub-

³⁶ Council of the European Union, *Council Framework Decision of 13 June 2002 on Combating Terrorism*, OFFICIAL J. EUR. COMMUNITIES, at 4, available at <http://www.statewatch.org/news/2002/jul/frameter622en00030007.pdf>.

³⁷ See Anil Kalhan et al., *Colonial Continuities: Human Rights, Terrorism, and Security Laws in India*, 20 COLUM. J. ASIAN L. 93, 98 (2006).

³⁸ *Id.*

³⁹ *Id.* at 214.

⁴⁰ *Id.* at 214 n.486. Additional actions called for included full implementation of “those agreements and previous Security Council resolutions addressing terrorism, to improve border security, and to exchange information with and provide judicial assistance to other member states in terrorism-related criminal proceedings.”

⁴¹ *Id.* at 155 n.255 (“By one count, federal law in the United States includes at least twenty-two different definitions of ‘terrorism.’”); see also Nicholas J. Perry, *The Numerous Federal Definitions of Terrorism: The Problem of Too Many Grails*, 30 J. LEGIS. 249, 254-69 (2004) (discussing the different definitions of terrorism at the federal level).

stantive criminal laws, such as TADA [Terrorist and Disruptive Activities (Prevention) Act], POTA [Prevention of Terrorism Act], and UAPA [Unlawful Activities (Prevention) Act], which define terrorism—and other security-related offenses and establish special rules to adjudicate these offenses during non-emergency periods.⁴²

“[O]n September 17, 2004 the Union Cabinet in keeping with the UPA government’s Common Minimum Programme, approved ordinances to repeal the controversial . . . [POTA] and amend the Unlawful Activities (Prevention) Act, 1967 [UAPA].”⁴³ “By the promulgation of . . . Ordinance No. 1 of 2004, it repealed POTA.”⁴⁴ “[W]hen the new [G]overnment [of India] repealed POTA, it simultaneously reenacted and thereby preserved several of its provisions as amendments to the [UAPA] of 1967.”⁴⁵ In UAPA Sections 2(1)(o)-(p) 3-5, we find *unlawful activity* and *unlawful association* defined and the provision “for judicial review of designations of unlawful associations . . .”⁴⁶ In UAPA Sections 35-40, we find an incorporation of the terrorist organisation provisions from POTA.⁴⁷ Chapter IV of the UAPA, titled Punishment for Terrorist Activities, offers a clear, comprehensive, and plain language definition of *terrorist act*:

⁴² Kalhan et al., *supra* note 38, at 398-99; *see also* South Asian Terrorism Portal (SATP), The Terrorist and Disruptive Activities Prevention Act, 1987, <http://satp.org/satporgtg/countries/india/document/actandordinances/Tada.htm> (last visited Mar. 1, 2009) (“[TADA] was permitted to lapse in May 1995 though cases initiated while it was in force continue to hold legal validity.”); South Asian Terrorism Portal, The Unlawful Activities Prevention Amendment Ordinance, 2004, http://www.satp.org/satporgtg/countries/india/document/actandordinances/the_unlawful_activities_amendord2004.htm [hereinafter The Unlawful Activities (Prevention) Amendment Ordinance] (last visited Mar. 1, 2009) (“After the Prevention of Terrorism Act, 2002, was repealed through an Ordinance, the President of India, on September 21, 2004, promulgated an Ordinance to amend the Unlawful Activities (Prevention) Act, 1967.”).

⁴³ Legal Service India, Repeal of POTA—Justified, <http://www.legalservicesindia.com/articles/pota.htm> (last visited Mar. 1, 2009).

⁴⁴ Legal Service India, Anti-Terrorism Laws in India & the Need of POTA, http://www.legalserviceindia.com/articles/anti_pota.htm (last visited Mar. 1, 2009).

⁴⁵ Kalhan et al., *supra* note 38, at 413.

⁴⁶ The Unlawful Activities (Prevention) Amendment Ordinance, *supra* note 43.

⁴⁷ *Id.*

Whoever, with intent to threaten the unity, integrity, security or sovereignty of India or to strike terror in the people or any section of the people in India or in any foreign country, does any act by using bombs, dynamite or other explosive substances or inflammable substances or firearms or other lethal weapons or poisons or noxious gases or other chemicals or by any other substances (whether biological or otherwise) of a hazardous nature, in such a manner as to cause, or likely to cause, death of, or injuries to any person or persons or loss of, or damage to, or destruction of, property or disruption of any supplies or services essential to the life of the community in India or in any foreign country or causes damage or destruction of any property or equipment used or intended to be used for the defence [sic] of India or in connection with any other purposes of the Government of India, any State Government or any of their agencies, or detains any person and threatens to kill or injure such person in order to compel the Government in India or the Government of a foreign country or any other person to do or abstain from doing any act, commits a terrorist act.⁴⁸

The United States Code (U.S. Code) contains a definition of *terrorism*.⁴⁹ This law has embedded in it a requirement for the Secretary of State to make annual country reports on terrorism to Congress.⁵⁰

Definitions

As used in this section—

- (1) the term “international terrorism” means terrorism involving citizens or the territory of more than 1 country;
- (2) the term “terrorism” means premeditated, politically motivated violence perpetrated against noncombatant targets by subnational groups or clandestine agents;

⁴⁸ *Id.*

⁴⁹ See 22 U.S.C. § 2656f (2000 & Supp. 2006).

⁵⁰ See *id.* at 2656f(a).

(3) the term “terrorist group” means any group practicing, or which has significant subgroups which practice, international terrorism;

(4) the terms “territory” and “territory of the country” mean the land, waters, and airspace of the country; and

(5) the terms “terrorist sanctuary” and “sanctuary” mean an area in the territory of the country—

(A) that is used by a terrorist or terrorist organization—

(i) to carry out terrorist activities, including training, fundraising, financing, and recruitment; or

(ii) as a transit point; and

(B) the government of which expressly consents to, or with knowledge, allows, tolerates, or disregards such use of its territory and is not subject to a determination under—

(i) section 2405(j)(1)(A) of the Appendix to title 50;

(ii) section 2371(a) of this title; or

(iii) section 2780(d) of this title.⁵¹

Aside from law, U.S. defense and law enforcement policies include definitions of *terrorism* which are harmonious with, but do not mirror, U.S. law. The U.S. Department of Defense defines *terrorism* as “[t]he calculated use of unlawful violence or threat of unlawful violence to inculcate fear; intended to coerce or to intimidate governments or societies in the pursuit of goals that are generally political, religious, or ideological.”⁵²

In contrast, the U.S. Federal Bureau of Investigation (FBI), responsible for domestic law enforcement and aspects of domestic

⁵¹ *Id.* at §2656f(d).

⁵² U.S. Department of Defense Dictionary of Military and Associated Terms, Terrorism, <http://www.dtic.mil/doctrine/jel/doddiet/data/t/05461.html> (last visited Mar. 1, 2009).

counterterrorism, “divides the terrorist threat facing the United States into two broad categories, international and domestic.”⁵³

III. POTENTIAL AGROTERRORIST OR ECOTERRORIST GOALS

The U.S. National Defense University’s Center for Counterproliferation Research commissioned Dr. W. Seth Carus to study and opine upon bioterrorism and biocrimes, necessarily including the categories of agroterrorism and ecoterrorism considered in this article.⁵⁴ Dr. Carus categorized potential goals for ecoterrorists as employing agents with unique cause and effect, noting a special attraction to biological weapons because “pathogens could cause mass casualties on an unprecedented scale.”⁵⁵ Dr. Carus further commented on the curious omission from official definitions of any reference to “groups with apocalyptic visions who are uninterested in influencing governments and seek instead to inflict mass casualties.”⁵⁶ In contrast to traditional terrorists using violence as a means to an end, Dr. Carus hypothesizes that “proponents of catastrophic terrorism view mass killing as the desired end. Groups of this type are not common, yet they do exist.”⁵⁷

Biotoxins and infectious diseases have been sporadically weaponized throughout history.⁵⁸ What aspects of biological weapons

⁵³ Jarboe, *supra* note 4 (The FBI’s definition states that “International terrorism involves violent acts or acts dangerous to human life that are a violation of the criminal laws of the United States or any state, or that would be a criminal violation if committed within the jurisdiction of the United States or any state. Acts of international terrorism are intended to intimidate or coerce a civilian population, influence the policy of a government, or affect the conduct of a government. These acts transcend national boundaries in terms of the means by which they are accomplished, the persons they appear intended to intimidate, or the locale in which perpetrators operate.”).

⁵⁴ See W. SETH CARUS, *BIOTERRORISM AND BIOCRIMES: THE ILLICIT USE OF BIOLOGICAL AGENTS SINCE 1900*, at v (rev. 2001) (*cited with authority in* TERRY KNOWLES ET AL., NAT’L INST. OF JUSTICE, *DEFINING LAW ENFORCEMENT’S ROLE IN PROTECTING AMERICAN AGRICULTURE FROM AGROTERRORISM* 29-31 (2005), *available at* <http://www.ncjrs.gov/pdffiles1/nij/grants/212280.pdf>)).

⁵⁵ *Id.* at 3.

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ J.P. Dudley & M.H. Woodford, *Bioweapons, Bioterrorism and Biodiversity: Potential Impacts of Biological Weapons Attacks on Agricultural and Biological*

would prove attractive to terrorists, aside from the intended psychological impact? Dr. Carus believes that bioterrorists might well use biological agents as a “tool for achieving specialized objectives not necessarily intended to directly influence government actions,” especially where the elements of surprise and concealed origins might magnify the effects of the attack.⁵⁹

Leading specialists considered the results of failure to detect or contain disease outbreaks stemming from agroterrorism and ecoterrorism. As the chairman of the World Organisation for Animal Health Working Group on Wildlife Diseases cautioned, consequences could include “severe erosion of genetic diversity in local and regional populations of both wild and domestic animals, the extinction of endangered species and the extirpation of indigenous peoples and their cultures.”⁶⁰

Shortly after the events of September 11, 2001, the Congressional Research Service (CRS) offered the U.S. Congress a clearly stated and unclassified report titled *Agroterrorism: Options in Congress*.⁶¹ Alejandro Segarra opined in the report that the goal of agroterrorism is to “cripple the biological infrastructure of a nation’s agriculture, i.e., its livestock and its crops. Many links in the agricultural production chain are potentially susceptible to attack with a biological weapon.”⁶² Prevention being preferable to cure, Segarra notes traditional defense against the introduction of livestock or plant diseases has been “try[ing] to keep them out of the country by stopping them at our borders.”⁶³ Failing that, the next line of defense will “de-

Diversity, REV. SCI. TECH. OFF. INT’L. EPIZOOTIES, at 125 (2002), available at <http://www.oie.int/boutique/extrait/jpdudley.pdf?PHPSESSID=392cd0b95223fe1dab1d2a961e187e6d>.

⁵⁹ Carus, *supra* note 55, at 3. Carus believes that “[v]irtually all bioterrorists seek to keep their use of biological agents a secret, because in many instances success depended on the lack of appreciation that a disease outbreak was intentional.”

⁶⁰ *Id.*

⁶¹ ALEJANDRO E. SEGARRA, CONGRESSIONAL RESEARCH SERVICE, *AGROTERRORISM: OPTIONS IN CONGRESS* (2001), available at http://www.law.umaryland.edu/marshall/crsreports/crsdocuments/RL31217_12192001.pdf.

⁶² *Id.* at summary.

⁶³ *Id.*

pend on quick actions from alert and informed farmers and disease specialists.”⁶⁴

Segarra’s CRS report went further to define and predict two types of potential agroterrorism effects: Direct economic losses due to the “cost of destroying disease-ridden crops and livestock, and the cost of disease containment[;]”⁶⁵ and indirect costs and multiplier effects resulting from disorder in agricultural sectors relying on agriculture (transportation and retail) and from the loss of export markets (trading partners embargoing particular U.S. agricultural products).⁶⁶ The present-day costs of preventing and combating agroterrorism and ecoterrorism can be found in Appendix 2 of this article titled: Homeland Security Funding for Agriculture, by Source.

Jim Monke of the CRS observed that “the general susceptibility of the agriculture and food industry to [agroterrorism (in the guise of biological vector propagated bioterrorism)] is difficult to address in a systematic way due to the geographically dispersed, yet industrially concentrated nature of the industry, and the inherent biology of growing plants and raising animals.”⁶⁷ While focused on potential threats to American agriculture, his warnings hold similar applicability to various Indian agricultural endeavors.⁶⁸

The Council on Foreign Relations (CFR)⁶⁹ quoted former U.S. Secretary of Health and Human Services Tommy Thompson as saying in November 2001 he was “particularly concerned about food-related terrorism, which could involve either attempts to introduce poisons into the food supply or attacks that would ruin domestically cultivated crops or livestock.”⁷⁰ According to the U.S. Centers for Disease Control and

⁶⁴ *Id.*

⁶⁵ *Id.* at 2.

⁶⁶ *Id.* at 2-3.

⁶⁷ MONKE, *supra* note 3, at 2.

⁶⁸ *Id.* at 1-2.

⁶⁹ The Council on Foreign Relations touts itself as a nonpartisan resource for information and analysis. Council on Foreign Relations, Mission Statement, <http://www.cfr.org/about/mission.html> (last visited Mar. 1, 2009).

⁷⁰ *Targets for Terrorism: Food and Agriculture*, COUNCIL ON FOREIGN REL., January 2006, http://www.cfr.org/publication/10197/targets_for_terrorism.html#1 [hereinafter *Targets for Terrorism*] (internal quotations omitted).

Prevention, America “spends more than [one billion dollars] every year to keep America’s food supply safe, but even without terrorism, food-borne diseases cause about 5,000 deaths and 325,000 hospitalizations each year”⁷¹ Agroterrorism expert Cain asserts:

The experts agree on one thing. The cost in terms of damages is directly proportional to the time it takes to diagnose the disease. The longer it takes to diagnose a disease, the more it could spread and cause potentially extensive losses of production and exports due to sanctions against the U.S.⁷²

The CFR predicted that “[i]mported food could be tainted with biological or chemical agents before entering the United States, or toxins could be introduced at a domestic food-processing plant.”⁷³ The CFR further stated that “[c]rops or livestock raised on American soil could also be targeted. Experts worry that terrorists might try to spread false rumors about unsafe foods via the mass media or the Internet.”⁷⁴

Attempted agroterrorist attacks worldwide included a 1970s Palestinian plot to contaminate Jaffa oranges with mercury; the CFR reports that Israel’s citrus exports decreased by forty percent, and a 1989 incident of cyanide contamination in Chilean grapes cost Chile two hundred million dollars in lost trade.⁷⁵ A successful attack on American livestock might cause between ten and thirty billion dollars in damage to the national economy, opined the CFR.⁷⁶ Such a prediction is plausible since the foot-and-mouth disease outbreak that occurred in Canada between 1951 and 1953 cost two million dollars to destroy the animals, decreased livestock value by six hundred and fifty million dollars, and caused an embargo which cost two billion dollars.⁷⁷ Anne Kohnen

⁷¹ *Id.*

⁷² CAIN, *supra* note 28, at 2 (internal footnotes omitted).

⁷³ Targets for Terrorism, *supra* note 71.

⁷⁴ *Id.*

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ ANNE KOHNEN, JOHN F. KENNEDY SCH. OF GOV’T, HARVARD UNIV., RESPONDING TO THE THREAT OF AGROTERRORISM: SPECIFIC RECOMMENDATIONS FOR THE UNITED STATES DEPARTMENT OF AGRICULTURE 4 (2000), available at http://belfercenter.ksg.harvard.edu/files/responding_to_the_threat_of_agroterrorism.pdf.

noted while crops can become resistant to “diseases through genetic selection and production of resistant strains[.]”⁷⁸ foreign animal diseases (FADs) pose the greatest threat to agriculture because animals have no built up immunity against them (or cannot build up immunity), and may require drastic quarantine and immediate eradication efforts.⁷⁹

There is not common agreement as to the numbers and locations of agroterrorism and ecoterrorism, and at the time of this article’s writing, there were no clearly identifiable instances of agroterrorism or ecoterrorism in India written about in India’s open (unclassified) sources of information.⁸⁰ There are at least six groups that committed terroristic acts in or against India that could (but hopefully will not) undertake agroterrorism or ecoterrorism.

Of most recent note and infamy, Lashkar-e-Taiba (LeT) (Army of the Pure), is the group likely responsible for the December 2008 coordinated terrorist attacks on civilians in Mumbai, India.⁸¹ LeT is described as “a militant Islamist group operating in Pakistan as well as in Jammu and Kashmir” with “ideological, but unconfirmed operational ties to al-Qaeda,” with likely responsibility “for some of the most high-profile terrorist attacks in India, also including the July 11, 2006 bombing of the Mumbai commuter rail.”⁸²

In Jammu and Kashmir’s spectacularly picturesque high altitude grounds of confrontation, at least four terrorist-insurgent groups oper-

⁷⁸ *Id.* at 19.

⁷⁹ *Id.* at 12-13.

⁸⁰ For a comprehensive, unclassified description of groups that committed terroristic acts against India, *see, e.g.*, Eben Kaplan & Jayshree Bajoria, *Counterterrorism in India*, COUNCIL ON FOREIGN REL., http://www.cfr.org/publication/11170/counterterrorism_in_india.htm (last visited Mar. 1, 2009).

⁸¹ Schmitt, Eric; Sengupta, Somini (2008-12-03). “Ex-U.S. Official Cites Pakistani Training for India Attackers,” *The New York Times*. Retrieved on 3 December 2008. Pakistan’s National Security national security adviser, Mahmud Ali Durrani, confirmed that the lone surviving gunman from the Mumbai terrorist attacks, Muhammad Ajmal Kasab, is a Pakistani citizen; Durrani was then dismissed by the Pakistani Prime Minister over this disclosure. See Oppel, Richard A (2009-01-07) *Gunman in Mumbai Siege a Pakistani*, *New York Times*, http://www.nytimes.com/2009/01/08/world/asia/08pstan.html?_r=1&adxnnl=1&adxnnlx=1232650806-BGjldVINLve708RfexRVrw (last visited Mar. 1, 2009).

⁸² *Id.*

ate. Those groups include: Jaish-e-Muhammad (Army of Mohammed);⁸³ Harakat ul-Mujahedeen (HuM) (Islamic Freedom Fighters' Group), "founded . . . as an anti-Soviet group fighting in Afghanistan" which "shifted its focus to Jammu and Kashmir" and terrorist operations in Bosnia-Herzegovina, Myanmar, and Tajikistan;⁸⁴ Harakat ul-Jihad-I-Islami (HUJI), founded to fight Soviets, but more recently "concentrated its efforts in Jammu and Kashmir. HUJI . . . is based in Pakistan and Kashmir . . ."⁸⁵and; Jamiat ul-Mujahedin, "a small group of pro-Pakistan Kashmiri separatists[.]" "thought to be responsible for a pair of 2004 grenade attacks against political targets in India."⁸⁶

Finally, two revolutionary-oriented terrorist-insurgent groups in India include: the Communist Party of India, comprised of leftist militants, broke down seeking a "'revolutionary zone' of control extending from the Nepalese border down to the southern part of Andhra Pradesh,"⁸⁷ and the United Liberation Front of Assam (ULFA), seeking an "independent socialist state in Assam" and is known for "attacks on political leaders, security forces, and infrastructure."⁸⁸

Regarding threats worldwide, but concerning the U.S. in particular, the James Martin Center For Nonproliferation Studies (CNS) at the Monterey Institute of International Studies, indicates that since 1915, there were twenty-three acts of agroterrorism around the world, seven of which took place in the U.S.⁸⁹ Dr. Carus, the Deputy Director of the Center for the Study of Weapons of Mass Destruction, found in contrast, that since the turn of the twentieth century, there were twelve "documented cases involving biological agents used against agriculture and food sources" and numerous violent acts and threatened acts intended to have an ecological effect.⁹⁰ Dr. Carus reviewed "every identi-

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ See generally James Martin Center for Nonproliferation Studies, Chronology of CBW Incidents Targeting Agriculture and Food Systems 1915-2006, <http://www.cns.miis.edu/cbw/agchron.htm> (last visited Mar. 1, 2009) (listing the acts of agroterrorism between 1915 and 2006).

⁹⁰ KNOWLES ET AL., *supra* note 55, at 29.

fiable instance in open-source materials in which a perpetrator(s) used, acquired, or threatened to use a biological agent” and “researched over 270 alleged cases involving biological agents but identified only 12 cases that involved agriculture and/or food sources.”⁹¹

Year	Bioterrorism Incident	Alleged Perpetrators
1997	Hemorrhagic virus spread among wild rabbit population in New Zealand	New Zealand farmers
1996	Food poisoning using shigella in a Dallas, Texas hospital	hospital lab employee
1995	Food poisoning of an estranged husband using ricin in Johnson County, Kansas	Kansas physician
1984	Food poisoning of public salad bars using salmonella in The Dalles, Oregon	Rajneeshee Cult
1970	Food poisoning of four college roommates using parasite-contaminated food	college roommate
1964	Food poisoning in Japan using salmonella and dysentery	Japanese physician
1952	African milk bush used to kill 33 head of livestock in Kenya	Mau Mau insurgents
1939	Food poisoning in Japan using pastries contaminated with salmonella	Japanese physician
1936	Food poisoning in Japan using cakes contaminated with salmonella	Japanese physician
1916	Food poisoning in New York City using arsenic to kill wife’s parents	New York dentist
1913	Food poisoning in Germany using cholera and typhus to kill family members	German chemist
1912	Food poisoning in France using salmonella and poisonous mushrooms	French druggist

Source: Carus, 2002; Chalk, 2004.

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There is some dispute as to which of the twelve incidents could be termed as completed (versus inchoate or not yet made complete, certain, or specific) acts of terrorism.⁹³ “The first occurred in Kenya in 1952, when a group of Mau Mau insurgents” opposing British rule in Kenya poisoned thirty-three steers, cutting their hides and introducing African milk bush latex into their systems to kill eight of the animals.⁹⁴

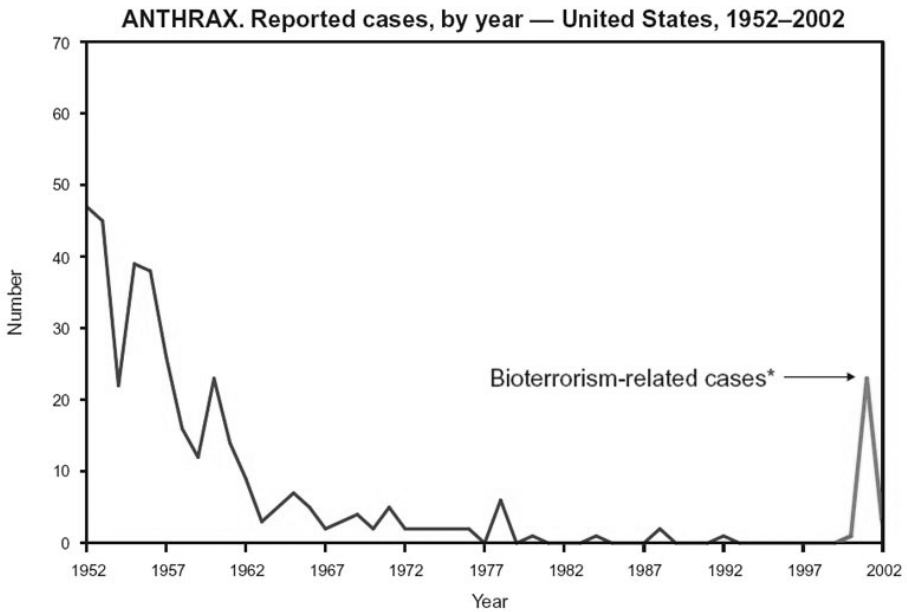
⁹¹ *Id.*

⁹² *Id.* at 30.

⁹³ See *id.* at 29 (“Only [two] of the [twelve] incidents could be termed as acts of terrorism.”).

⁹⁴ *Id.*

The second bioterrorism attack Dr. Carus identified “occurred in 1984, when the Rajneeshee Cult [caused] . . . [a] total of 751” nonfatal injuries resulting from a terror effort to “make people sick so they could not vote” by contaminating “public restaurants (salad bars, coffee creamers, and salad dressing) with salmonella in The Dalles, Oregon.”⁹⁵



* One epizootic-associated cutaneous case was reported in 2001 from Texas.

Two cases of cutaneous anthrax were reported to CDC in 2002. One case occurred in a laboratorian who had been processing environmental samples for *Bacillus anthracis* in support of investigations of the bioterrorist attacks in the United States during fall 2001. The other was a naturally occurring case in a veterinarian who was performing a necropsy of a cow.

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Curiously omitted from this study, however, were the twenty-three U.S. (nineteen confirmed, four suspected) *Bacillus anthracis* (anthrax) outbreak incidents during the latter part of 2001 and early 2002.⁹⁷ “[N]o transmission from infected to susceptible persons . . . linked one case with another[,]” but rather arose because “a terrorist or terrorists sent . . . anthrax spores through the” U.S. Mail.⁹⁸ The CDC’s report

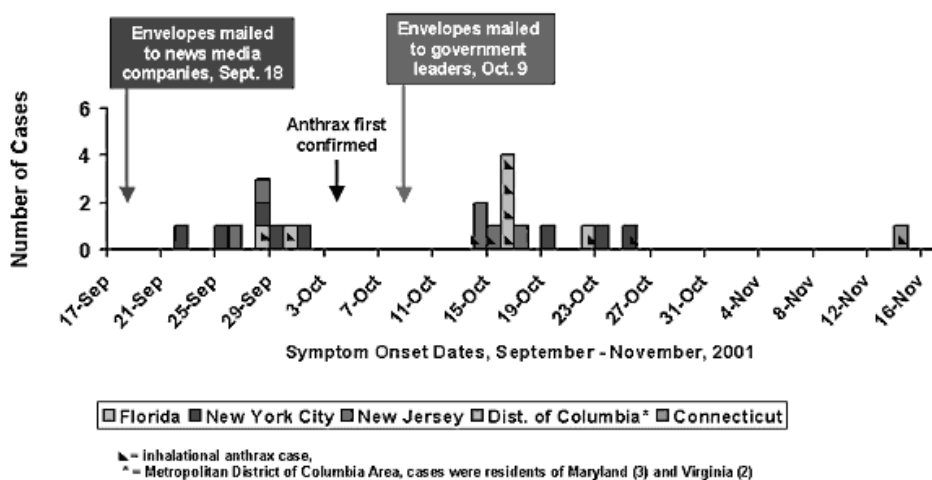
⁹⁵ *Id.* at 30 (internal quotations omitted).

⁹⁶ UCLA Department of Epidemiology, American Anthrax Outbreak of 2001, http://www.ph.ucla.edu/epi/Bioter/detect/antdetect_intro.html (last visited Mar. 1, 2009).

⁹⁷ *See id.* (discussing the 2001 anthrax outbreak).

⁹⁸ *Id.*

found that “in October 2001, the first inhalational anthrax case in the United States since 1976 was identified in a media company worker in Florida.”⁹⁹ As a result of the national investigation to identify additional cases and determine possible exposures to *Bacillus anthracis*, the CDC discovered that “[f]rom October 4 to November 20, 2001, 22 cases of anthrax (11 inhalational, 11 cutaneous) were identified; 5 of the inhalational cases were fatal.”¹⁰⁰ Twenty of those 22 (91%) case-patients were either “mail handlers or were exposed to worksites where contaminated mail was processed or received.”¹⁰¹ “*B. anthracis* isolates from four powder-containing envelopes, 17 specimens from patients, and 106 environmental samples were indistinguishable by molecular subtyping.”¹⁰²



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⁹⁹ Daniel B. Jernigan et al., *Investigation of Bioterrorism-Related Anthrax, United States, 2001: Epidemiologic Findings*, EMERGING INFECTIOUS DISEASES, Oct. 2002, at 1019, available at <http://www.cdc.gov/ncidod/EID/vol8no10/pdf/02-0353.pdf>.

¹⁰⁰ *Id.* at 1019.

¹⁰¹ *Id.* The CDC’s additional findings were that “[i]llness and death occurred not only at targeted worksites, but also along the path of mail and in other settings. Continued vigilance for cases is needed among health-care providers and members of the public health and law enforcement communities.”

¹⁰² Daniel B. Jernigan et al., *Investigation of Bioterrorism-Related Anthrax, United States, 2001: Epidemiologic Findings*, EMERGING INFECTIOUS DISEASES, Oct. 2002, at 1019, available at <http://www.cdc.gov/ncidod/EID/vol8no10/pdf/02-0353.pdf>.

¹⁰³ *Id.* at 1023.

The “CDC informed the public in many ways, occasionally via interviews with reporters, other times in talks or professional presentations, but most often with updates in the *Morbidity and Mortality Weekly Report* (MMWR)” from 2001 through 2003.¹⁰⁴ As for the ensuing law enforcement investigation—code-named “Amerithrax” by the U.S. FBI and its partners—the hunt for the Anthrax attack culprits became “one of the largest and most complex in the history of law enforcement.”¹⁰⁵ As an epilogue, in the Fall of 2008, both the FBI and Department of Justice made breakthroughs in the case, releasing documents and information tying a defense bioweapons expert (Dr. Bruce Ivins) to the incidents,¹⁰⁶ but the suspect committed suicide before charges were filed.¹⁰⁷

“According to U.S. law enforcement, radical environmentalism currently poses the most visible homegrown threat to the national security of the United States.”¹⁰⁸ The RAND Center for Terrorism Risk Management Policy studied this radical environmentalism, finding it “covers an eclectic range of individuals and causes, although most find expression and representation in the Earth Liberation Front (ELF).”¹⁰⁹ Contemporary radical environmentalism’s two foci are: “‘Biocentrism’ which regards all living organisms on earth as equal and deserving of moral rights and respect, [and] ‘Deep ecology’ which calls for a general rollback of civilization and industrialization, the removal of pathogenic species (including, presumably, rapacious humans), and the restoration of the ecological balance.”¹¹⁰

The RAND Corporation estimates that the highly decentralized ELF extremist entity “caused between \$35 million and \$45 million in direct property damage, operating in a geographic arc” from Washington, Oregon, California, Arizona, New York, Minnesota, Pennsylvania,

¹⁰⁴ UCLA Department of Epidemiology School of Public Health, *supra* note 97.

¹⁰⁵ AMERITHRAX Investigation, Federal Bureau of Investigation Website, [Ahttp://www.fbi.gov/anthrax/amerithraxlinks.htm](http://www.fbi.gov/anthrax/amerithraxlinks.htm) (last visited Mar. 1, 2009).

¹⁰⁶ *Id.*

¹⁰⁷ Shane, Scott, and Lichtblau, Eric, Scientist’s Suicide Linked to Anthrax Inquiry, New York Times Aug. 2, 2008, <http://www.nytimes.com/2008/08/02/washington/02anthrax.html>.

¹⁰⁸ CHALK, *supra* note 5, at 47.

¹⁰⁹ *Id.* at 47.

¹¹⁰ *Id.* at 48.

and Indianapolis from 1994 through 2005.¹¹¹ “Radical environmentalists have used a variety of tactics in the name of ecological protection, all of which the FBI designate as examples of ‘special interest terrorism.’”¹¹² Such incidents, and the U.S. or multinational groups claiming credit or being investigated for the commission of such incidents, include but are not limited to the six notable groups.

Attacks targeting forestry resources are the *modus operandi* for two groups in particular. Earth First! orchestrated attacks, protests, and civil disobedience from 1984 onward, specializing in “‘tree spiking’ (insertion of metal or ceramic spikes in trees in an effort to damage saws) as a tactic to thwart logging.”¹¹³ As some members chose to mainstream Earth First!, others still refused to abandon criminal acts as a tactic, and in turn established the Earth Liberation Front (ELF) in 1992 in Brighton, England.¹¹⁴ The ELF advocates monkeywrenching or “acts of sabotage and property destruction against industries and other entities perceived to be damaging to the natural environment.”¹¹⁵ This includes “tree spiking, arson, sabotage of logging or construction equipment, and other types of property destruction.”¹¹⁶

The so-called Animal Liberation Front (ALF), formed in the late 1970s in the United Kingdom, is believed to have worked together with ELF to commit “more than 600 criminal acts in the United States since 1996, resulting in damages in excess of 43 million dollars.”¹¹⁷ In particular, ALF’s *direct action* targeting of fur companies, mink farms, restaurants, and animal research laboratories has been intended to “cause economic loss or to destroy the victims’ company operations.”¹¹⁸

The Sea Shepherd Conservation Society, formed by disaffected members of the ecological preservation group Greenpeace, is another

¹¹¹ *Id.* at 47-48.

¹¹² *Id.* at 49 (internal citations omitted).

¹¹³ Jarboe, *supra* note 4, at 1.

¹¹⁴ *Id.* at 1.

¹¹⁵ *Id.*

¹¹⁶ *Id.* at 2-3.

¹¹⁷ *Id.*

¹¹⁸ *Id.* at 2.

splinter group of radical environmentalists. Since 1977 Greenpeace attacked the fishing industry by cutting commercial fishing drift nets.¹¹⁹

Finally, two groups with a southwestern area of focus attacked public utilities and private entities equally. The Coalition to Save the Preserves (CSP), in the Phoenix, Arizona area, committed arson attacks on new homes under construction, causing more than \$5 million in damages.¹²⁰ The self-proclaimed Evan Mecham Eco-Terrorist International Conspiracy, named after a former Arizona governor and car dealership owner, coincidentally has initials *EMETIC*, a word that means something that induces vomiting.¹²¹ *EMETIC* was “formed to engage in eco-terrorism against nuclear power plants and ski resorts in the southwestern United States.”¹²² Amongst its various claimed attacks, in November 1987 *EMETIC* claimed responsibility for damage to a chairlift at the Fairfield Snow Bowl Ski Resort near Flagstaff, Arizona, and “planned incidents at the Central Arizona Project and Palo Verde nuclear generating stations in Arizona; the Diablo Canyon Nuclear Facility in California; and the Rocky Flats Nuclear Facility in Colorado.”¹²³

The RAND Corporation expects to see “militant ecologists . . . assum[ing] an increasingly prominent role in civil disobedience directed against perceived symbols of global capitalism and corporate greed, potentially leading the call for targeted aggression in the name of anti-humanist and anarchist ideals” in major urban U.S. centers which are loci for “politico-economic power or play host to prominent conglomerate interests”¹²⁴

¹¹⁹ *Id.*

¹²⁰ *Id.* at 3.

¹²¹ Terrorist Organization Profile: Evan Mecham Eco-Terrorist International Conspiracy (*EMETIC*), START-National Consortium for the Study of terrorism and Responses to Terrorism Website, http://www.start.umd.edu/data/tops/terrorist_organization_profile.asp?id=3239 (last visited Mar. 1, 2009).

¹²² *Id.*

¹²³ *Id.*

¹²⁴ CHALK, *supra* note 5, at 52.

IV. PREVENTING AN AGROTERRORIST OR ECOTERRORIST ATTACK: A CONCERTED APPROACH

Past agroterrorism and ecoterrorism attacks indicate the necessity for active defense (countering terrorism) as well as an active offense (counterterrorism).

Indian political expert B. Raman noted that “[u]nder India’s federal Constitution, the responsibility for policing and maintenance of law and order is that of the individual states.”¹²⁵ Raman observed that the federal, central government in New Delhi can “only give [the individual states] advice, financial help, training and other assistance to strengthen their professional capabilities and share with them the intelligence collected by it. The responsibility for follow-up action lies with the state police.”¹²⁶ At the federal, central level, India’s counterterrorism capabilities include a superbly competent interagency approach, combining political, military, and police organizations within the government of India.¹²⁷

The Indian Ministry of Home Affairs, for which the U.S. equivalent would be the Department of Homeland Security, includes the Intelligence Bureau (IB) which oversees national police, paramilitaries, and domestic intelligence gathering. Raman’s assessment of the IB is that it “oversees an interagency counterterrorism center similar” to the role formerly played by the U.S. Central Intelligence Agency (CIA), and now assumed by the Director of National Intelligence (DNI).¹²⁸ Also overseeing its own counterterrorism force, the Ministry of External Affairs is akin to the U.S. State Department’s Bureau of Diplomatic Security.¹²⁹ In the past, the Ministry of External Affairs has “oversee[n]

¹²⁵ B. Raman, *Pakistan Weaves an Elaborate Web*, ASIA TIMES ONLINE, Jan. 19, 2005, http://www.atimes.com/atimes/South_Asia/GA19Df03.html. Raman is the Director of the Institute for Topical Studies, Chennai, and served as additional secretary (retired), and cabinet secretariat, government of India, New Dehli.

¹²⁶ B. Raman, *India’s Counter-terrorism Strategy*, REDIFF SPECIAL, Apr. 6, 2003, <http://www.rediff.com/news/2003/apr/05spec.htm> [hereinafter *India’s Counter-terrorism Strategy*].

¹²⁷ See Kaplan & Bajoria, *supra* note 81, at 3-5.

¹²⁸ *Id.* at 4.

¹²⁹ See, e.g., U.S. Department of State–Bureau of Diplomatic Security Website, <http://www.state.gov/m/ds/> (last visited Mar. 1, 2009).

diplomatic counterterrorism functions such as briefing other nations on suspected Pakistani sponsorship of terrorism in India.”¹³⁰

Finally, the Indian Armed Forces and police exercise considerable counterterrorism capabilities. In particular, the Indian Army undertakes “counterterrorism operations as a last resort, though in Jammu and Kashmir they play a more consistent role.”¹³¹ The State-run police forces (like the 165,000 force Central Reserve Police Force), includes “special security forces to guard airports and other high-profile targets, and paramilitary forces that patrol the borders and assist the police when necessary.”¹³²

The U.S. Government makes a distinction between counterterrorism and antiterrorism.¹³³ Counterterrorism generally refers to offensive military operations designed to prevent, deter, and respond to terrorism.¹³⁴ In contrast, antiterrorism consists of defensive measures taken to reduce the vulnerability of individuals and property to terrorist attacks.¹³⁵ The U.S. Department of Defense (DoD) “is not the lead agency for combating terrorism,” but the department has significant responsibilities and roles in it.¹³⁶ However, DoD plays an important supporting role, “providing technical assistance or forces when requested by the President of the U.S. and/or the Secretary of Defense.”¹³⁷ Aside

¹³⁰ *Id.*

¹³¹ *Id.* at 2.

¹³² *Id.* at 3-4; *see also India's Counter-terrorism Strategy*, *supra* note 127 (explaining India's counterterrorism policies and techniques).

¹³³ LTC BAIME, EUGENE ET AL., *THE JUDGE ADVOCATE GEN.'S LEGAL CTR. & SCH., OPERATIONAL LAW HANDBOOK* 400 (Maj Derek L. Grimes et al. eds., 2006), *available at* http://www.au.af.mil/au/awc/awcgate/law/oplaw_hdbk.pdf.

¹³⁴ *Id.* at 401.

¹³⁵ *Id.*

¹³⁶ *Id.*

¹³⁷ *Id.* Please note that in the U.S., Counterterrorism (CT) generally refers to offensive military operations designed to prevent, deter and respond to terrorism. It is a highly-specialized, resource-intensive military activity. . . . [O]perations forces units are prepared to execute these missions on order of the President or SECDEF. Combatant commanders maintain designated CT contingency forces when national assets are not available. These programs are sensitive, normally compartmented, and addressed in relevant National Security Directives (NSD), Presidential Decision Directives (PDD), National Security Presidential Directives

from U.S. Government plans, orders, and directives not subject to public scrutiny due to their classification or compartmentation, unclassified U.S. Homeland Security Presidential Directives are issued by the President on matters pertaining to homeland security.¹³⁸ Specifically, terrorism threats of all kinds (not just agroterrorism and ecoterrorism) are considered, including:

- HSPD – 1: Organization and Operation of the Homeland Security Council. Ensures coordination of all homeland security-related activities among executive departments and agencies and promote the effective development and implementation of all homeland security policies.
- HSPD – 2: Combating Terrorism Through Immigration Policies. Provides for the creation of a task force which will work aggressively to prevent aliens who engage in or support terrorist activity from entering the United States
- HSPD – 3: Homeland Security Advisory System. Establishes a comprehensive and effective means to disseminate information regarding the risk of terrorist acts

(NSPD), contingency plans (CONPLAN) and other classified documents.

Id. Antiterrorism (AT), which is sometimes interchangeably used with the term combating terrorism,

consists of defensive measures to reduce the vulnerability of individuals and property to terrorist attacks. Overseas (OCONUS), AT should be an integrated and comprehensive plan within each combatant command. The AT plan is normally thought of in two primary phases: proactive and reactive. The proactive phase includes planning, resourcing and taking preventive measures, as well as preparation, awareness, education and training, prior to an incident. The reactive phase includes the crisis management actions in response to an attack. In the continental United States (CONUS), DoD's role is generally that of providing expert technical support in the area of consequence management.

Id.

¹³⁸ Author's note: At the time of this article's writing, the new administration under President Obama had not issued new, unclassified Homeland Security policy, nor altered previous policy pertinent to the topics discussed in this article.

to Federal, State, and local authorities and to the American people.

- HSPD – 4: National Strategy to Combat Weapons of Mass Destruction. Applies new technologies, increased emphasis on intelligence collection and analysis, strengthens alliance relationships, and establishes new partnerships with former adversaries to counter this threat in all of its dimensions.
- HSPD – 5: Management of Domestic Incidents. Enhances the ability of the United States to manage domestic incidents by establishing a single, comprehensive national incident management system.
- HSPD – 6: Integration and Use of Screening Information. Provides for the establishment of the Terrorist Threat Integration Center.
- HSPD – 7: Critical Infrastructure Identification, Prioritization, and Protection. Establishes a national policy for Federal departments and agencies to identify and prioritize United States critical infrastructure and key resources and to protect them from terrorist attacks.
- HSPD – 8: National Preparedness. Identifies steps for improved coordination in response to incidents. This directive describes the way Federal departments and agencies will prepare for such a response, including prevention activities during the early stages of a terrorism incident. This directive is a companion to HSPD-5.
. . . .
- HSPD – 9: Defense of United States Agriculture and Food. Establishes a national policy to defend the agriculture and food system against terrorist attacks, major disasters, and other emergencies.

- HSPD – 10: Biodefense for the 21st Century. Provides a comprehensive framework for our nation’s Biodefense.
- HSPD – 11: Comprehensive Terrorist-Related Screening Procedures. Implements a coordinated and comprehensive approach to terrorist-related screening that supports homeland security, at home and abroad. This directive builds upon HSPD – 6.
- HSPD – 12: Policy for a Common Identification Standard for Federal Employees and Contractors. Establishes a mandatory, Government-wide standard for secure and reliable forms of identification issued by the Federal Government to its employees and contractors (including contractor employees).

HSPD – 13: Maritime Security Policy. Establishes policy guidelines to enhance national and homeland security by protecting U.S maritime interests

- HSPD - 16: Aviation Strategy. Details a strategic vision for aviation security while recognizing ongoing efforts, and directs the production of a National Strategy for Aviation Security and supporting plans.
. . . .

- HSPD – 18: Medical Countermeasures against Weapons of Mass Destruction. Establishes policy guidelines to draw upon the considerable potential of the scientific community in the public and private sectors to address medical countermeasure requirements relating to CBRN threats.
. . . .

- HSPD – 20: National Continuity Policy. Establishes a comprehensive national policy on the continuity of federal government structures and operations and a single National Continuity Coordinator responsible for coordinating the development and implementation of federal continuity policies.

. . . .

- HSPD – 21: Public Health and Medical Preparedness. Establishes a national strategy that will enable a level of public health and medical preparedness sufficient to address a range of possible disasters.¹³⁹

Towards that end, U.S. Homeland Security Presidential Directive 10 of April 2004 defines prevention and protection as one of the essential pillars of the U.S. response to the terrorist threat.¹⁴⁰ The four essential pillars of the U.S. response to the terrorist threat are: “Threat Awareness, Prevention and Protection, Surveillance and Detection, and Response and Recovery.”¹⁴¹

At the behest of the President of the U.S., assets under the Homeland Security Council (HSC) are organized under the HSC Principals Committee (HSC/PC) to be the “senior interagency forum under the HSC for homeland security issues.”¹⁴² Pursuant to Homeland Security Presidential Directive 1, October 29, 2001, on the Organization and Operation of the Homeland Security Council, the HSC/PC is composed of the following members:

[T]he Secretary of the Treasury; [T]he Secretary of Defense; [T]he Attorney General; [T]he Secretary of Health and Human Services; [T]he Secretary of Transportation; [T]he Director of the Office of Management and Budget; [T]he Assistant to the President for Homeland Security (who serves as Chairman); [T]he Assistant to the President and Chief of Staff; [T]he Director of Central Intelli-

¹³⁹ Department of Homeland Security, Homeland Security Presidential Directives (HSPDs), *available at* http://www.dhs.gov/xabout/laws/editorial_0607.shtm. See also LTC EUGENE BAIME, ET AL., *supra* note 134, at 411-13 for a brief, clear outline of assets used in combating terrorism and counterterrorism.

¹⁴⁰ The White House, Biodefense for the 21st Century, <http://www.whitehouse.gov/homeland/20040430.html> (last visited Oct. 16, 2008).

¹⁴¹ *Id.*; see also REYNOLDS M. SALERNO & LAUREN T. HICKOK, BIOSECURITY AND BIOTERRORISM: BIODEFENSE STRATEGY, PRACTICE, AND SCIENCE 107-116 (2007), *available at* <http://www.liebertonline.com/doi/abs/10.1089/bsp.2006.0027>.

¹⁴² U.S. Homeland Security Presidential Directive—1, 37 PUB. PAPERS 44 (Nov. 5, 2001), *available at* <http://www.whitehouse.gov/news/releases/2001/10/20011030-1.html>.

gence; [T]he Director of the Federal Bureau of Investigation; [T]he Director of the Federal Emergency Management Agency; and [T]he Assistant to the President and Chief of Staff to the Vice President. The Assistant to the President for National Security Affairs invited to attend all meetings of the HSC/PC.¹⁴³

With so many policy documents and so many objectives, for purposes of this article, I believe that the recurrent common themes and requirements regarding counterterrorism and antiterrorism measures for the U.S. and India should focus on a three-pronged, combined, and interagency approach, as adapted from Knowles, to preventing agroterrorist and ecoterrorist attacks.

1. Define in advance the role of law enforcement, military, and judiciary in regard to these acts of terrorism;
2. Establish a common understanding and operational picture through shared intelligence on threats and vulnerability of industry, agriculture, and other aspects of public and private sectors;
3. Delineate responsibilities for protecting vulnerabilities, preventing and responding to attacks, continuity of operations, and hand off, where necessary.¹⁴⁴

Special FBI Agent David Cudmore says, “[i]dentifying threats of agroterrorism and stopping them before they happen are obviously vital roles for law enforcement.” Cudmore, a weapons of mass destruction coordinator, adds,

But protecting the Nation’s agricultural industry will take combined efforts of the agriculture industry, government, law enforcement, and academic and scientific

¹⁴³ *Id.*

¹⁴⁴ See KNOWLES ET AL., *supra* note 55, at 15 (listing the challenges for law enforcement in dealing with agroterrorism).

communities working together to minimize both the likelihood of an attack and the severity of its impact.¹⁴⁵

Local law enforcement should gather intelligence, for example, by working with livestock producers to identify vulnerable farms and feedlots. Partnerships—the best way to prevent an occurrence of agroterrorism and the only way to contain one—must be created among the local sheriff and farmers, ranchers, meatpackers, truckers, feedlot owners, and other critical members of the food-supply chain in the jurisdiction. Meetings with local chapters of livestock associations and other industry groups can encourage the exchange of ideas. Also, local law enforcement must establish a working relationship with veterinarians and animal and plant health inspectors.¹⁴⁶

Mr. Glenn R. Schmitt, “director of the Office of Research and Data at the U.S. Sentencing Commission and the former acting director” of the U.S. Department of Justice’s NIJ, aptly notes that “agroterrorism is not meant to be an act of violence against livestock but an attack on the economic stability of the [nation].”¹⁴⁷

The study funded by NIJ identified five groups that could pose threats to our agricultural industry:

1. International terrorists. (Although many animal diseases have been eradicated in this country, they flourish overseas. The foot-and-mouth virus is easily accessed, transported, and transmitted.)
2. Domestic terrorists, including anarchist or antigovernment groups.
3. Militant animal rights groups.

¹⁴⁵ GLENN R. SCHMITT, *Agroterrorism—Why We’re Not Ready: A Look at the Role of Law Enforcement*, NAT’L INST. JUST. J., June 2007, available at <http://www.ojp.usdoj.gov/nij/journals/257/agroterrorism.html>.

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

4. Economic opportunists seeking financial gain as a result of a change in market prices.
5. Disgruntled employees seeking revenge.¹⁴⁸

“The paradigm for protecting the [U.S.] changed after [September 11, 2001] . . . ,” from preventing an agroterrorist or ecoterrorist attack to focusing on a multiechelon, concerted, and coordinated inter-agency effort.¹⁴⁹ Aside from classified and unclassified U.S. DoD counterterrorism and countering terrorism assets, the U.S. Department of Homeland Security (DHS) maintains information on potential terrorist threats, coordinates preventive plans, and organizes incident responses.¹⁵⁰ “The FBI runs the Terrorism Threat Investigation Center The U.S. Department of Agriculture (USDA) has a number of programs that concentrate on identifying foreign animal diseases. Nationally recognized experts can also help local law enforcement agencies create a prevention and response plan.”¹⁵¹ “The NIJ is committed to helping sheriffs and other local law enforcement first responders develop a prevention plan and a response plan to mitigate the impact of agroterrorism.”¹⁵²

In addition, the NIJ conducts the Terrorism Research Symposium.¹⁵³ In public-private partnership, the DHS, USDA, FBI, and Food and Drug Administration (FDA), “will collaborate with private industry and the States in a joint initiative, the Strategic Partnership Program Agroterrorism (SPPA) Initiative.”¹⁵⁴

Private educational institutions also bring much talent and capability to the efforts to counter and combat agroterrorism and ecoterrorism. “Several colleges around the country offer training to improve law enforcement’s ability to respond to agroterrorism. . . . help local agen-

¹⁴⁸ *Id.*

¹⁴⁹ *Id.*

¹⁵⁰ *See id.*

¹⁵¹ *Id.*

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ U.S. DEPARTMENT OF AGRICULTURE, HOMELAND SECURITY: STRATEGIC PARTNERSHIP PROGRAM AGROTERROISM (SPPA), http://www.usda.gov/wps/portal/?contentidonly=true&contentid=content_sppa.html (last visited Mar.1, 2009).

cies with training[,]” and promote college train the trainer programs on combating agroterrorism.¹⁵⁵ Academia is also establishing, through public-private partnerships, various Homeland Security Centers of Excellence (HS-Centers) to “[empower] the best scientific minds at [U.S.] universities to tackle the challenges of agro-terrorism . . . [to] ensure the bio-security and safety of the [U.S.] food supply.”¹⁵⁶

Schmitt emphasizes that identifying and stopping terrorism threats before they happen is crucial to law enforcement, but this sort of law enforcement requires public-private partnerships: “[p]artnerships—the best way to prevent an occurrence of agroterrorism and the only way to contain one—must be created among the local sheriff and farmers, ranchers, meatpackers, truckers, feedlot owners, and other critical members of the food-supply chain in the jurisdiction.”¹⁵⁷

Law enforcement’s role post-agroterrorism or ecoterrorism depends upon the extent of the incident, and the availability of local, state, and federal authorities. Schmitt sets forth three priorities, based upon NIJ research and best practices:

- First, “establish and enforce a strict quarantine around the affected area.”¹⁵⁸
- Second, construct “State-wide roadblocks to help contain the disease.”¹⁵⁹
- Third, conduct “primary crimescene investigation, including collection of tissue from infected animals and an attempt to identify suspects . . . [and] the affected areas would have to be destroyed and disposed of.”¹⁶⁰

Agroterrorism expert Cain said:

¹⁵⁵ SCHMITT, *supra* note 145.

¹⁵⁶ *U.S. Research to Combat Agro-Terrorism*, CHANDIGARH AGRIC. TRIB., Dec. 15, 2003, available at <http://www.tribuneindia.com/2003/20031215/agro.htm#3>.

¹⁵⁷ SCHMITT, *supra* note 145.

¹⁵⁸ *Id.*

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

The experts appear to agree on one thing. The cost in terms of damages is directly proportional to the time it takes to diagnose the disease. The longer it takes to diagnose a disease, the more it could spread and cause potentially extensive losses of production and exports due to sanctions against the U.S.¹⁶¹

Cooperation among law enforcement agencies at all levels represents an important component of a comprehensive response to terrorism and enables criminals and terrorists to be brought to justice¹⁶² (the prosecution and defense of such cases is well beyond the scope of this article). In the U.S., according to Jarboe, this cooperation assumes its most tangible operational form in the forty-four city-based and oriented Joint Terrorism Task Forces (JTTFs) established in across the nation:

These task forces are particularly well-suited to responding to terrorism because they combine the national and international investigative resources of the FBI with the street-level expertise of local law enforcement agencies. Given the success of the JTTF concept, the FBI has established 15 new JTTFs since the end of 1999. By the end of 2003 the FBI plans to have established JTTFs in each of its 56 field offices. By integrating the investigative abilities of the FBI and local law enforcement agencies, these task forces represent an effective response to the threats posed to U.S. communities by domestic and international terrorists.¹⁶³

V. CONCLUSION

India and the U.S. share much in terms of common goals of their peoples, their democratic principles, and common threats to their security. Towards the ends of a common counterterrorism strategy, the two nations: concluded a Mutual Assistance Treaty on law enforcement and counterterrorism; held two meetings of the Joint Working Group on

¹⁶¹ CAIN, *supra* note 28, at 2.

¹⁶² See SCHMITT, *supra* note 145 (“Preventing an agroterrorism attack will require a concerted, coordinated effort by all levels of law enforcement.”).

¹⁶³ Jarboe, *supra* note 4, at 4.

Counterterrorism; formed the Defense Policy Group; launched initiatives to combat cyber-terrorism; supported information security; and promoted military-to-military cooperation.¹⁶⁴

“High level visits between Indian and U.S. leaders from 2002 through 2004 have also helped advance, in former Indian Prime Minister Vajpayee’s words, ‘the next steps in the U.S. and India strategic partnership.’”¹⁶⁵

This article is an elemental, cursory survey of potential agroterrorism and ecoterrorism threats posed to the U.S. and India, some preventive and remedial solutions to those scourges, and suggestions of possible ways ahead in this critical effort.

In closing this article, allow me to offer two quotes sharing the mutual goals and aspirations of the world’s two great democracies:

In the long run, the United States and India understand that winning the war on terror requires changing the conditions that give rise to terror. History shows us the way. From the East to West, we’ve seen that only one force is powerful enough to replace hatred with hope, and that is the force of human freedom.¹⁶⁶

As two democracies, we are natural partners in many respects. . . . I believe we are at a juncture where we can embark on a partnership that can draw both on principle as well as pragmatism. We must build on this opportunity. . . . India is today embarked on a journey inspired by many dreams. We welcome having America by our side. There is much we can accomplish together.¹⁶⁷

¹⁶⁴ Govern, Kevin H. *Security Assistance Cooperative Approaches to Counterterrorism*, DISAM J. SECURITY ASSISTANCE MGMT., Summer 2005, at 14, available at http://www.disam.dsca.mil/DISAM1/pubs/Vol%2027_4/Govern.pdf.

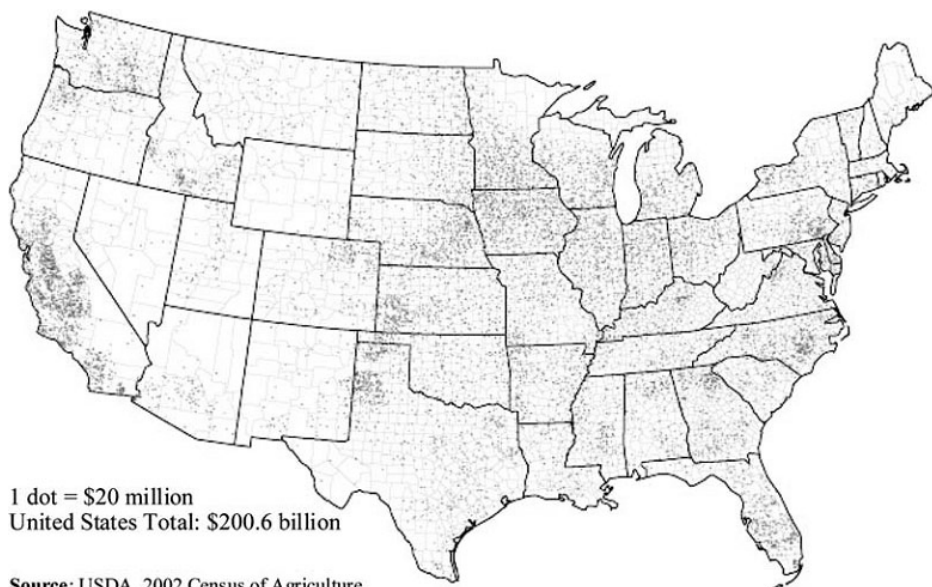
¹⁶⁵ *Id.* at 15.

¹⁶⁶ The White House, President Discusses Strong U.S.-India Partnership in New Delhi, India (March 3, 2006), <http://www.whitehouse.gov/news/releases/2006/03/20060303-5.html>.

¹⁶⁷ Singh, *supra* note 1.

APPENDIX 1

CONTINENTAL U.S. AGRICULTURE, BY LOCATION



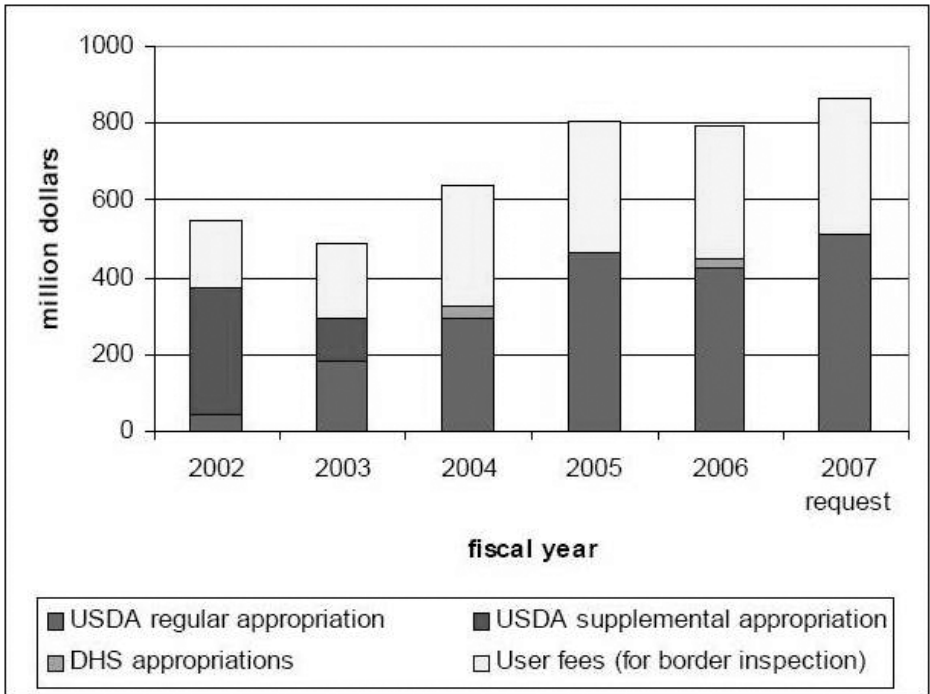
Source: USDA, 2002 Census of Agriculture

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¹⁶⁸ MONKE, *supra* note 3, at 5.

APPENDIX 2

HOMELAND SECURITY FUNDING FOR AGRICULTURE, BY SOURCE



¹⁶⁹ *Id.* at 32.

APPENDIX 3

BILLS IN 109TH CONGRESS ADDRESSING AGROTERRORISM

(For Updates, see <http://www.govtrack.us/congress/billsearch.xpd>)

Bill	Committee Jurisdiction	Status (As of November 2006)
S. 572 (Akaka) Homeland Security Food and Agriculture Act	Homeland Security and Governmental Affairs	Reported by committee on 12/15/2006 S.Rept. 109-209
S. 573 (Akaka) Agricultural Security Assistance Act	Agriculture	Referred to committee Incorporated into S. 975
S. 975 (Lieberman) Project BioShield II Act Title 27 (Countermeasures Against Agroterrorism)	Health, Education, Labor, and Pensions	Committee hearing held 7/21/2005 S.Hrg. 109-210
S. 1532 (Specter) Agroterrorism Prevention Act	Agriculture	Referred to committee
H.R. 4239 (Petri) S. 1926 (Inhofe) Animal Enterprise Terrorism Act	Judiciary	Referred to committee

¹⁷⁰ *Id.* at 53.