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Agroterrorism and Ecoterrorism: A Survey of Indo-American Approaches Under Law and Policy to Prevent and Defend Against the Potential Threats Ahead

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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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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, “as 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.

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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.\(^11\)

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\(^8\) 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 Monk, 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 AGROTEERRORISM 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.\(^\text{12}\) 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.\(^\text{13}\)

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).\(^\text{14}\) 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 & ETHNONMEDICINE 24 (2006), available at http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=1475843&blobtype=pdf.

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.”

Among many of the world’s representative religious faiths, terrorism targeting agriculture and ecological resources would be anathema. 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. 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.” From the Rig-Veda 6:48:17 comes: “[d]o not cut trees, because they remove pollution.” 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.” Mahavira, founder of the Jain religion said “[m]ay all that have life be delivered from suffering.” 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’”).
18 Id. (“Sanskrit word ahimsa means nonharm to all life.”).
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 (\textit{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.”\(^{30}\)

\(^{22}\) \textit{Id.}\n\(^{23}\) American Vegetarian, \textit{supra} note 18, at 1.\n\(^{24}\) Animal Rights Quotes, \textit{supra} note 18, at 4.\n\(^{25}\) \textit{Id.} at 5.\n\(^{26}\) \textit{Id.} at 9.\n\(^{27}\) \textit{See generally} Steve Cain, Purdue U., Agroterrorism: A Purdue Extension Backgrounder, Sept. 24, 2001, \url{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).\n\(^{28}\) \textit{Id.} at 3.\n\(^{29}\) \textit{Id.}\n\(^{30}\) \textit{Id.}\n
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.”

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.”

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 . . . .”

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, not counting national laws or other regional treaties and

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)).
agreements. 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


structures of a country . . . .”

Focusing on Indo-American approaches, international and domestic political considerations shaped the debates in India and in the U.S. over respective antiterrorism laws. 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.”

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.”

Kalhan aptly notes that “Resolution 1373 also ‘calls upon’ states to become parties to the [then] twelve existing international conventions and protocols concerning terrorism . . . .”

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.”

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-

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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:


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.\footnote{48}

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

\footnote{48}{Id.}
\footnote{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.\textsuperscript{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.”\textsuperscript{52}

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

\textsuperscript{51} Id. at §2656f(d).

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

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. 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.” 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.” 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.”

Biotoxins and infectious diseases have been sporadically weaponized throughout history. 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.”).


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.\footnote{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.”\footnote{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.\footnote{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.”\footnote{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.”\footnote{63} Failing that, the next line of defense will “de-
pend on quick actions from alert and informed farmers and disease specialists.”

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[;]” 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). 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.” While focused on potential threats to American agriculture, his warnings hold similar applicability to various Indian agricultural endeavors.

The Council on Foreign Relations (CFR) 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.” According to the U.S. Centers for Disease Control and Prevention (CDC), bioterrorism refers to the deliberate release of pathogenic organisms or toxins to cause disease or death in humans, animals, or plants. The CDC advises that in order to prevent bioterrorism, it is important to maintain a healthy and sustainable ecosystem, as well as to implement measures to prevent the introduction of pathogens into the food supply. The CDC also notes that bioterrorism can have significant economic and social impacts, including loss of life, illness, and economic disruption. Therefore, it is important to develop and implement effective strategies to prevent and respond to bioterrorism events.
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 . . . .” 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

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.
noted while crops can become resistant to “diseases through genetic selection and production of resistant strains[,]”\textsuperscript{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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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.”\textsuperscript{82}

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

\textsuperscript{78} Id. at 19.
\textsuperscript{79} Id. at 12-13.
\textsuperscript{80} For a comprehensive, unclassified description of groups that committed terroristic acts against India, see, \textit{e.g.}, Eben Kaplan & Jayshree Bajoria, \textit{Counterterrorism in India}, \textsc{council on foreign rel.}, \texttt{http://www.cfr.org/publication/11170/counterterrorism_in_india.htm} (last visited Mar. 1, 2009).
\textsuperscript{82} Id.
ate. Those groups include: Jaish-e-Muhammad (Army of Mohammed),\textsuperscript{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;\textsuperscript{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 . . .”\textsuperscript{85} and; 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.”\textsuperscript{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,\textsuperscript{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.”\textsuperscript{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.\textsuperscript{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.\textsuperscript{90} Dr. Carus reviewed “every identi-

\textsuperscript{83} Id.  
\textsuperscript{84} Id.  
\textsuperscript{85} Id.  
\textsuperscript{86} Id.  
\textsuperscript{87} Id.  
\textsuperscript{88} Id.  
\textsuperscript{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.”

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

Source: Carus, 2002; Chalk, 2004.

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. “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.

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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.”

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. "[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. The CDC’s report

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

As a result of the national investigation to identify additional cases and determine possible exposures to *Bacillus anthraci*, 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.”

Twenty of those 22 (91%) case-patients were either “mail handlers or were exposed to worksites where contaminated mail was processed or received.”

“*B. anthracis* isolates from four powder-containing envelopes, 17 specimens from patients, and 106 environmental samples were indistinguishable by molecular subtyping.”

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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.”


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. 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.” 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 biowarfare expert (Dr. Bruce Ivins) to the incidents, but the suspect committed suicide before charges were filed.

“According to U.S. law enforcement, radical environmentalism currently poses the most visible homegrown threat to the national security of the United States.” 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).” 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.”

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,

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104 UCLA Department of Epidemiology School of Public Health, supra note 97.
106 Id.
108 CHALK, supra note 5, at 47.
109 Id. at 47.
110 Id. at 48.
2009]  

and Indianapolis from 1994 through 2005.\textsuperscript{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.’”\textsuperscript{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 \textit{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.”\textsuperscript{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.\textsuperscript{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.”\textsuperscript{115} This includes “tree spiking, arson, sabotage of logging or construction equipment, and other types of property destruction.”\textsuperscript{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.”\textsuperscript{117} In particular, ALF’s \textit{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.”\textsuperscript{118}

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

\begin{itemize}
  \item \textsuperscript{111} \textit{Id.} at 47-48.
  \item \textsuperscript{112} \textit{Id.} at 49 (internal citations omitted).
  \item \textsuperscript{113} Jarboe, \textit{supra} note 4, at 1.
  \item \textsuperscript{114} \textit{Id.} at 1.
  \item \textsuperscript{115} \textit{Id.}
  \item \textsuperscript{116} \textit{Id.} at 2-3.
  \item \textsuperscript{117} \textit{Id.}
  \item \textsuperscript{118} \textit{Id.} at 2.
\end{itemize}
splinter group of radical environmentalists. Since 1977 Greenpeace attacked the fishing industry by cutting commercial fishing drift nets.\textsuperscript{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.\textsuperscript{120} The self-proclaimed Evan Mecham Eco-Terrorist International Conspiracy, named after a former Arizona governor and car dealership owner, coincidentally has initials \textit{EMETIC}, a word that means something that induces vomiting.\textsuperscript{121} EMETIC was “formed to engage in eco-terrorism against nuclear power plants and ski resorts in the southwestern United States.”\textsuperscript{122} Amongst its various claimed attacks, in November 1987 EMETIC claimed responsibility for damage to a chair-lift 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.”\textsuperscript{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 “policto-economic power or play host to prominent conglomerate interests . . . .”\textsuperscript{124}

\begin{flushright}
\textsuperscript{119} \textit{Id.}
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\begin{flushright}
\textsuperscript{120} \textit{Id. at 3.}
\end{flushright}

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

\begin{flushright}
\textsuperscript{122} \textit{Id.}
\end{flushright}

\begin{flushright}
\textsuperscript{123} \textit{Id.}
\end{flushright}

\begin{flushright}
\textsuperscript{124} \textit{CHALK, supra} note 5, at 52.
\end{flushright}
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.” 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.” 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.

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). Also overseeing its own counterterrorism force, the Ministry of External Affairs is akin to the U.S. State Department’s Bureau of Diplomatic Security. In the past, the Ministry of External Affairs has “oversee[n]...
diplomatic counterterrorism functions such as briefing other nations on
suspected Pakistani sponsorship of terrorism in India.”

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.” 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.”

The U.S. Government makes a distinction between counterterrorism and antiterrorism. Counterterrorism generally refers to offensive military operations designed to prevent, deter, and respond to terrorism. In contrast, antiterrorism consists of defensive measures taken to reduce the vulnerability of individuals and property to terrorist attacks. 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. 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.” 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).
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. 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

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.

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 – 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 – 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.\textsuperscript{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.\textsuperscript{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.”\textsuperscript{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.”\textsuperscript{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-


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.\textsuperscript{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.\textsuperscript{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

\textsuperscript{143} \textit{Id.}
\textsuperscript{144} See \textsc{Knowles et al.}, \textit{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.\textsuperscript{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.\textsuperscript{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].”\textsuperscript{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.


\textsuperscript{146} Id.

\textsuperscript{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 interagency 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.

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.
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 justice\(^{162}\) (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

165 Id. at 15.
167 Singh, supra note 1.
APPENDIX 1

CONTINENTAL U.S. AGRICULTURE, BY LOCATION

1 dot = $20 million
United States Total: $200.6 billion

Source: USDA, 2002 Census of Agriculture

168 MONKE, supra note 3, at 5.
APPENDIX 2

HOMELAND SECURITY FUNDING FOR AGRICULTURE, BY SOURCE

169 Id. at 32.
2009]  Government

APPENDIX 3

BILLS IN 109TH CONGRESS ADDRESSING AGROTEERRORISM
(For Updates, see http://www.govtrack.us/congress/billsearch.xpd)

<table>
<thead>
<tr>
<th>Bill</th>
<th>Committee Jurisdiction</th>
<th>Status (As of November 2006)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. 573 (Akaka) Agricultural Security Assistance Act</td>
<td>Agriculture</td>
<td>Referred to committee Incorporated into S. 975</td>
</tr>
<tr>
<td>S. 1532 (Specter) Agroterrorism Prevention Act</td>
<td>Agriculture</td>
<td>Referred to committee</td>
</tr>
<tr>
<td>H.R. 4239 (Petri) S. 1926 (Inhofe) Animal Enterprise Terrorism Act</td>
<td>Judiciary</td>
<td>Referred to committee</td>
</tr>
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</table>

170 Id. at 53.