

## Chapman Law Review

---

Volume 13 | Issue 3

Article 1

---

2010

# Mycoherbicides and Alternative Development: How the United States Can Defeat Narco- Terrorism

Rachel Ehrenfeld

Aylana Meisel

Follow this and additional works at: <http://digitalcommons.chapman.edu/chapman-law-review>

---

### Recommended Citation

Rachel Ehrenfeld & Aylana Meisel, *Mycoherbicides and Alternative Development: How the United States Can Defeat Narco-Terrorism*, 13 CHAP. L. REV. 509 (2010).

Available at: <http://digitalcommons.chapman.edu/chapman-law-review/vol13/iss3/1>

This Article is brought to you for free and open access by the Fowler School of Law at Chapman University Digital Commons. It has been accepted for inclusion in Chapman Law Review by an authorized administrator of Chapman University Digital Commons. For more information, please contact [laughtin@chapman.edu](mailto:laughtin@chapman.edu).

# Mycoherbicides and Alternative Development: How the United States Can Defeat Narco-Terrorism

*Dr. Rachel Ehrenfeld, Ph.D\* and Aylana Meisel*

Narco-terrorists<sup>1</sup> and international criminal organizations thrive on the illegal drug trade, threatening global security. Their complex partnerships link illegal drugs, money, geography, and politics. Narco-terrorist activities finance many of the world's most violent conflicts, including the increasingly intense wars of the Mexican cartels, terrorist groups such as the FARC (Revolutionary Armed Force of Colombia)<sup>2</sup> in Latin America, the PLO (Palestine Liberation Organization),<sup>3</sup> Hezbollah, Hamas<sup>4</sup> in the Middle East, the Taliban, al-Qaeda, and other radical Muslim organizations in Pakistan, Afghanistan, and elsewhere.

Terrorists' and criminals' mutually beneficial activities include: illegal arms trafficking, extortion, and protection rackets; kidnapping; prostitution rings and human trafficking; credit card, social security, and immigration fraud; identity theft; tax fraud; counterfeiting currencies, pharmaceuticals, cigarettes, alcohol, and other materials; pirating videos, compact discs, tapes, and software; and illegal oil trade.

---

\* Dr. Ehrenfeld is the Director of the Economic Warfare Institute at the American Center for Democracy, located in New York City ([www.econwarfare.org](http://www.econwarfare.org)). Dr. Ehrenfeld is the author of the books *Funding Evil: How Terror is Financed and How to Stop It*, *Evil Money: Encounters Along the Money Trail*, and *Narco-terrorism: How Governments Around the World Have Used the Drug Trade to Finance and Further Terrorist Activities*. Aylan Meisel is the Legal Fellow at the Economic Warfare Institute.

<sup>1</sup> MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 824 (11th ed. 2003) (defining "narco-terrorism" as "terrorism financed by profits from illegal drug trafficking"). This definition applies throughout this article where the terms narco-terrorist or narco-terrorism are used.

<sup>2</sup> GlobalSecurity.org, Revolutionary Armed Forces of Colombia Fuerzas Armadas Revolucionarias de Colombia—FARC, <http://www.globalsecurity.org/military/world/para/farc.htm> (last visited Apr. 22, 2010).

<sup>3</sup> See generally Rachel Ehrenfeld, *U.S. Ignored Money Trail: Bush Is Doomed to Fail If He Doesn't Cut Off Financing of Terrorists*, DETROIT NEWS, Sept. 30, 2001, at 17A & 20A, available at [http://www.public-integrity.org/article/invent\\_index.php?id=252](http://www.public-integrity.org/article/invent_index.php?id=252).

<sup>4</sup> There is recent evidence that Hezbollah and Hamas are doing business with South American drug trafficking organizations. See Edwin Mora, *Hezbollah, Hamas Raise Money for 'Terrorist Activities' from Drug Trade in South America, Congressional Research Service Says*, CNSNEWS, June 9, 2010, <http://www.cnsnews.com/news/article/67377>.

The United States could seriously curtail narco-terrorism, but it has not utilized the most effective or efficient methods for doing so. The optimal method for combating narco-terrorism entails a two-step process aimed at cutting the world's supply of drug crops: coca, poppy, and cannabis. First, the United States must complete research on mycoherbicides—specialized bioherbicide agents designed to vaccinate soil against the growth of certain plants, thus ensuring that the targeted plants cannot be economically grown. This research has already been authorized by the Office of National Drug Control Policy Reauthorization Act of 2006,<sup>5</sup> and will likely result in the use of mycoherbicides to reduce, and eventually halt, poppy growth in Afghanistan, Mexico, and Colombia, as well as coca growth in Latin America.<sup>6</sup> Second, the United States should invest approximately \$150–\$200 billion in multi-pronged, decade-long development programs aimed at spurring farmers to grow non-poppy and non-coca crops. By subsidizing the transition to licit crops, the United States will secure crop growers' compliance with the project aims.

This article argues for the immediate implementation of this strategy of drug eradication and alternative development. The first section outlines the case for quick action, noting some of the more prominent narco-terrorist entities and events of the past decade. The second section delves further into the topic of mycoherbicide research and usage, and calls for a more comprehensive aid program to key areas in order to discourage the growth of illicit crops. In this section, both humanitarian and economic justifications for these strategies are discussed. The conclusion calls for the Obama administration to implement the strategy discussed, which will save the lives of American troops and coalition forces, millions of potential drug addicts, and victims of terror and crime, in addition to the billions of dollars that would otherwise be spent on the costs of drug abuse.

---

<sup>5</sup> Office of National Drug Control Policy Reauthorization Act of 2006, Pub. L. No. 109-469 § 1111, 120 Stat. 3502, 3544 (2006), available at [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109\\_cong\\_public\\_laws&docid=f:publ469.109](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_public_laws&docid=f:publ469.109) [hereinafter Office of National Drug Control Policy Reauthorization Act § 1111].

<sup>6</sup> *Terrorism Financing: Hearing Before the Subcomm. on Public Safety and National Security of the Standing Committee on Justice, Human Rights, Public Safety and Emergency Preparedness*, House of Commons, 38th Parliament, 1st Session (2005) (statement of Dr. Rachel Ehrenfeld, Director, American Center for Democracy), available at <http://www2.parl.gc.ca/HousePublications/Publication.aspx?Language=E&Mode=1&Parl=40&Ses=3&DocId=2064417&File=0#Int-1435741>.

## I. A MORE DETAILED CASE FOR ACTION: INTERNATIONAL NARCO-TERRORISM

The relationship between drugs, crime, and terrorism is amply illustrated by many examples, both past and present. For instance, since the mid 1980s, Hezbollah has used illicit drugs as a major funding source and as a weapon against the West.<sup>7</sup> An official Iranian fatwa<sup>8</sup> ruled: “We are making these drugs for Satan—America and the Jews. If we cannot kill them with guns so we will kill them with drugs.”<sup>9</sup> Hezbollah’s involvement in the illegal drug trade centers on a transnational triangle of illicit activity conducted from areas of Lebanon, the Balkans, and the tri-border region of Argentina, Brazil, and Paraguay. The unstable, often corrupt government structures, weak economic platforms, porous borders, and largely unsupervised waterways and airfields in these regions are highly conducive to illicit operations.

As one of the world’s primary drug conduits, Mexico presents a particularly horrific picture of narco-terrorism and its effects.<sup>10</sup> The illicit drug market between the United States, Mexico, and Canada is one of the most profitable in the world, comprising over one-third of the global drug trade.<sup>11</sup> Approximately ninety percent of the cocaine and heroin in the United States is transported through Mexico.<sup>12</sup>

In recent years, Mexican drug lords and traffickers have established themselves as especially ruthless operators through a series of well-publicized and gory murders.<sup>13</sup> They have infiltrated and corrupted every layer of the Mexican government.<sup>14</sup> Mexican violence has spread with the drugs,

<sup>7</sup> *Id.*

<sup>8</sup> MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY 456 (11th ed. 2003) (defining “fatwa” as “a legal opinion or decree handed down by an Islamic religious leader”).

<sup>9</sup> YOSSEF BODANSKY, BIN LADEN: THE MAN WHO DECLARED WAR ON AMERICA 322 (1999).

<sup>10</sup> *Money, Guns and Drugs: Are U.S. Inputs Fueling Violence in Mexico?: Hearing on H.R. 4869 Before the Subcomm. On National Security and Foreign Affairs, 111th Cong. 3* (2009) [hereinafter *Money, Guns and Drugs*] (statement of Michael A. Braun, Managing Partner, Spectre Group International, LLC), available at <http://oversight.house.gov/images/stories/documents/20090313115541.pdf>.

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

<sup>13</sup> See, e.g., Ioan Grillo, *Behind Mexico’s Wave of Beheadings*, TIME.COM, Sept. 8, 2008, <http://www.time.com/time/world/article/0,8599,1839576,00.html>; Carolina Sanchez & Krupskaja Alis, *Cartel ‘Stewmaker’ Says He Dissolved 300 Bodies*, CNN, Jan. 24, 2009, available at <http://www.cnn.com/2009/WORLD/americas/01/24/mexico.cartel.arrest/index.html>.

<sup>14</sup> Susan E. Reed, *Certifiable—Mexico’s Corruption, Washington’s Indifference*, PBS, <http://www.pbs.org/wgbh/pages/frontline/shows/mexico/readings/newrepublic.html> (last visited Apr. 22, 2010).

spilling over into American cities such as El Paso, Atlanta, Chicago, and New York.<sup>15</sup> Mexican cartels have also expanded their operations into Africa, where they are also forming alliances with operatives of terrorist groups such as Hamas and al-Qaeda.<sup>16</sup>

Narco-terrorism has played a significant role in bolstering the Taliban and al-Qaeda, causing great loss of life among U.S. troops, coalition forces, and Afghani civilians. It is estimated that in 2007 the Taliban earned between \$259–\$518 million.<sup>17</sup> A sizeable chunk of this revenue stream derived from the taxation of poppy, Afghanistan's cash crop. Poppy is the source for heroin and other opiates.<sup>18</sup> The Taliban has an unlimited cash resource thanks to its stockpile of drugs, millions in poppy taxation, and its alliances with international drug traffickers.<sup>19</sup> Unfortunately, it has taken many years for the intelligence community to pay closer attention to these developments.

Al-Qaeda leader and Taliban ally Osama bin Laden took his share of the profits as well. According to a summary of evidence released by the British Prime Minister's Office, "Osama bin Laden's al-Qa'ida and the Taleban regime have a close and mutually dependent alliance . . . [t]hey jointly exploit the drugs trade. The Taleban regime allows bin Laden to operate his terrorist training camps and activities . . . and protects the drugs stockpiles."<sup>20</sup>

Generally, Afghan production of opium has spiked since 2001.<sup>21</sup> Production peaked in 2007 at 193,000 hectares of poppies, and then fell by nearly one-third as of 2009.<sup>22</sup> According to the United Nations Office on Drugs and Crime's Afghanistan

<sup>15</sup> See *Money, Guns and Drugs*, *supra* note 10.

<sup>16</sup> *Id.*

<sup>17</sup> Robert L. Williams, Estimate of Potential Taliban and al-Qaeda Income 1 (Feb. 20, 2008) (on file with Chapman Law Review). For lower estimates, see Muhammad Tahir, *Fueling the Taliban: Poppies Guns and Insurgents*, 6 TERRORISM MONITOR 4, 5 (2008), available at [http://www.jamestown.org/programs/gta/single/?tx\\_ttnews\[tt\\_news\]=5043&tx\\_ttnews\[backPid\]=167&no\\_cache=1](http://www.jamestown.org/programs/gta/single/?tx_ttnews[tt_news]=5043&tx_ttnews[backPid]=167&no_cache=1).

<sup>18</sup> Alyssa Greenspan, *Are We Fighting the Right War?*, 16 CARDOZO J. INT'L & COMP. L. 493, 496 (2008).

<sup>19</sup> Williams, *supra* note 17, at 4–5.

<sup>20</sup> *Official Document: Responsibility for the Terrorist Atrocities in the United States, 11 September, 2001*, THE INDEPENDENT, Oct. 4, 2001, <http://www.independent.co.uk/news/uk/politics/official-document-responsibility-for-the-terrorist-atrocities-in-the-united-states-11-september-2001-748317.html>.

<sup>21</sup> UNITED NATIONS OFFICE ON DRUGS AND CRIME, WORLD DRUG REPORT 2009 34, 187–88 (2009), [http://www.unodc.org/documents/wdr/WDR\\_2009/WDR2009\\_eng\\_web.pdf](http://www.unodc.org/documents/wdr/WDR_2009/WDR2009_eng_web.pdf).

<sup>22</sup> UNITED NATIONS OFFICE ON DRUGS AND CRIME, AFGHANISTAN OPIUM SURVEY 2009 1–2 (2009), [http://www.unodc.org/documents/crop-monitoring/Afghanistan/Afghanistan\\_opium\\_survey\\_2009\\_summary.pdf](http://www.unodc.org/documents/crop-monitoring/Afghanistan/Afghanistan_opium_survey_2009_summary.pdf) [hereinafter AFGHANISTAN OPIUM SURVEY].

Opium Survey of 2009 (Afghanistan Opium Survey), poppy cultivation in 2010 has stabilized at 2009 levels.<sup>23</sup> The Afghanistan Opium Survey also estimates that without successful eradication efforts, the amount earned by the Taliban is expected to increase by ten percent annually.<sup>24</sup>

The current U.S. strategy in Afghanistan has failed to significantly impact poppy cultivation, cracking open wider the financial floodgates that feed terrorism, crime, and insurgency worldwide. This is partly due to a belated recognition of the role that drugs played in financing the Taliban, which allowed poppy growth and opium cultivation to skyrocket following the entry of coalition forces into the country. At least in equal part, it is due to the failure to use mycoherbicides in drug eradication efforts. Further, while the U.S. Agency for International Development (USAID) renders economic, technical, and other support to Afghan farmers to encourage them to switch to licit crops, the projects are conducted in a piecemeal fashion, and are therefore not designed to leave lasting results.<sup>25</sup>

## II. THE SOLUTION TO NARCO-TERRORISM LIES IN DRUG ERADICATION AND DEVELOPMENT PROGRAMS

Thus far, the United States has adopted a drug eradication strategy that has produced lackluster results. Last year at the G8<sup>26</sup> conference, U.S. special envoy to Afghanistan Richard Holbrooke admitted that eradication efforts had “failed,” and stated that the United States would be diverting more resources toward alternative development programs.<sup>27</sup> G8 members lauded the move.<sup>28</sup>

The administration is not using all the tools that are available to root out drugs and combat narco-terrorism. Instead

---

<sup>23</sup> *Money, Guns and Drugs*, *supra* note 10, at 23.

<sup>24</sup> Williams, *supra* note 17, at 22–23.

<sup>25</sup> For more information on the alternative development program of the U.S. Agency for International Development, see USAID/Afghanistan, <http://afghanistan.usaid.gov/en/Program.20.aspx> (last visited Apr. 14, 2010). The program continues to experience hardship despite its early establishment in 1961. See USAID Testimony, <http://www.usaid.gov/press/speeches/2010/ty100301.html> (last visited Apr. 14, 2010) (listing a number of lessons learned from the past and present operation of the program).

<sup>26</sup> “G8” stands for the Group of Eight, which consists of eight industrialized countries, including Canada, France, Germany, Italy, Japan, Russia, the United Kingdom, and the United States. This group holds an annual conference at which group members discuss and find solutions to the main world issues. For more information, see G8 Summit 2009, [http://www.g8italia2009.it/G8/Home/G8-G8\\_Layout\\_locale-1199882116809\\_Summit.htm](http://www.g8italia2009.it/G8/Home/G8-G8_Layout_locale-1199882116809_Summit.htm) (last visited Apr. 22, 2010).

<sup>27</sup> Duncan Kennedy, *U.S. Changes Tack on Afghan Poppies*, BBC NEWS, June 27, 2009, [http://news.bbc.co.uk/2/hi/south\\_asia/8122622.stm](http://news.bbc.co.uk/2/hi/south_asia/8122622.stm).

<sup>28</sup> *Id.*

of using herbicides—chemicals that harm the environment and fail to stop poppy cultivation—the United States should balance a unique and harmless form of drug eradication with better alternative development programs. By investing approximately \$150–\$200 billion annually in alternative development programs in strategic areas, the United States will be able maximize efforts to reduce poppy cultivation while minimizing economic impacts on poppy growers, expenditure of resources on law enforcement, and attendant loss of life. It is also vital that the United States complement alternative development programs with more effective eradication efforts utilizing specially-engineered agents to target coca and poppy plants, while leaving the soil ripe for growth of licit crops.

A. Alternative Development Programs in Afghanistan, Colombia, and Other Narcotics Sweet Spots

The argument that drugs are bad for you is true but incomplete. Drugs are not only bad for you, but also contribute to violence, regional and global instability, and feed terrorist and criminal coffers. They inflict massive societal tolls in the form of rising healthcare costs, negative effects on investment, environmental damage from growth and harvesting, “disintegration of the family,” and higher incidence of criminal activity.<sup>29</sup> The majority of incarcerated Americans have been imprisoned either for a drug-related offense, such as possession, or a crime they committed under the influence of drugs.<sup>30</sup>

Drug use is also an economic inhibitor, which decreases productivity in the workplace and increases chances of unemployment. Cocaine abuse was almost four times more prevalent among the unemployed than the employed in a 1993 survey in Colombia.<sup>31</sup> A United States survey revealed that drug abuse was twice as prevalent among the unemployed as among the employed in 1994.<sup>32</sup>

According to official U.S. data, the societal cost of heroin and cocaine abuse in the United States was approximately \$160.7 billion in 2000, including investments in drug prevention, treatment, law enforcement efforts, and the social issues

---

29 UNITED NATIONS OFFICE ON DRUGS AND CRIME, ECONOMIC AND SOCIAL CONSEQUENCES OF DRUG ABUSE AND ILLICIT TRAFFICKING 16–37 (1998), [http://www.unodc.org/pdf/technical\\_series\\_1998-01-01\\_1.pdf](http://www.unodc.org/pdf/technical_series_1998-01-01_1.pdf) [hereinafter UNODC].

30 Christopher S. Wren, *Drugs or Alcohol Linked to 80% of Inmates*, N.Y. TIMES, Jan. 9, 1998, at A14, available at <http://www.nytimes.com/1998/01/09/us/drugs-or-alcohol-linked-to-80-of-inmates.html?pagewanted=1>.

31 See UNODC, *supra* note 29, at 16–17.

32 *Id.* at 17.

discussed above.<sup>33</sup> In contrast, farmers in Colombia make \$1 billion annually off of their coca crops, which supply over ninety percent of the cocaine and heroin flowing to the United States.<sup>34</sup> Afghan farmers are making a similar amount from growing a crop that supplies more than ninety percent of the world's opium.<sup>35</sup> Based on this figure, drug policy expert and author Walton Cook calculates that it would be more economically efficient for the United States to help stabilize whole regions and to subsidize agricultural switchovers to licit crops in these and similar countries.<sup>36</sup>

Take Afghanistan and Colombia as examples. Cook suggests investing \$1 billion annually toward farmer compensation, along with \$1.8 billion for social development projects, with an additional \$2.8 billion to make up for the loss of poppy-related Gross Domestic Product (GDP).<sup>37</sup> An annual economic package of \$5.6 billion would provide the comprehensive coverage needed to create a successful alternative development program in Afghanistan.<sup>38</sup> Cook recommends that a similar package in Colombia total approximately \$4 billion annually.<sup>39</sup> Additionally, Cook believes that the Andean nations, such as Bolivia and Peru, should also receive some form of subsidy, which would increase the subsidy costs by about \$1 billion a year.<sup>40</sup> The total investment over ten years would amount to approximately \$110 billion.

Recall that the societal cost inflicted by *not* implementing this program over that same period of time is at least \$1.6 trillion (\$160.7 billion times ten years).<sup>41</sup> Should the United States persuade other affected countries to participate in footing the bill for this innovative drug policy, they too would experience comparatively large benefits, while cutting back on costs devoted

---

<sup>33</sup> Ken Robertson, *Prisoner Reentry Initiative (PRI): Substance Abuse and Mental Health Disorders: The Challenges and Solutions*, July 12, 2005, [http://www.workforceinnovations.org/speaker\\_docs/robertson.pdf](http://www.workforceinnovations.org/speaker_docs/robertson.pdf) (indicating on slide 6 of the presentation that the overall national cost of illicit drug use to American society amounted to approximately \$160.7 billion, an increase of 6 percent per year from 1992 to 2000).

<sup>34</sup> Walton Cook, A Transformational Drug Policy Proposal 1 (Nov. 2007) (on file with Chapman Law Review) [hereinafter Cook, A Transformational Drug Policy Proposal].

<sup>35</sup> Walton Cook, *Dear President Obama*, AFGHAN ONLINE PRESS, Jan. 22, 2010, [http://www.aopnews.com/opinion/cook\\_obama.shtml](http://www.aopnews.com/opinion/cook_obama.shtml) [hereinafter Cook, *Dear President Obama*].

<sup>36</sup> Cook, A Transformational Drug Policy Proposal, *supra* note 34, at 1.

<sup>37</sup> *Id.* at 3.

<sup>38</sup> *Id.*

<sup>39</sup> *Id.*

<sup>40</sup> *Id.*

<sup>41</sup> See Robertson, *supra* note 33.



to their respective wars on drugs.<sup>42</sup> Even if those countries chose to take a free ride rather than invest jointly in alternative development programs, they would still experience the benefits of successful drug eradication and a decline in terror worldwide. A compelling humanitarian argument also supports Cook's approach to alternative development. By reducing the world's supply of heroin and cocaine, countries will sever the financial lifelines that feed the activities and spread of terrorist and insurgent organizations. Countries will need to deploy less military and law enforcement to deal with the threats to their safety. There will be less government corruption and less drug abuse, and therefore fewer ill-health effects, offenses, and incarcerations. There will also be stabilization in conflict-ridden areas such as Mexico, Afghanistan, and Pakistan. To raise an example that will surely hit home for many of us, killing the Afghan drug trade will expedite the safe withdrawal of the nearly 100,000 American troops from Afghanistan by eliminating the evil that they have been deployed to fight.

Consider the positive effects on people located in the countries slated for the alternative development program. Over 200,000 people suffer from opium addiction in Afghanistan, where even one-year-olds are passed an opium pipe.<sup>43</sup> In many families, every spare cent is devoted to opium.<sup>44</sup> Addicts spend an average of \$3–\$4 a day on opium, where the daily average income is a mere \$2.<sup>45</sup> They forgo food and other necessities to buy opium, increasing social and communal costs.<sup>46</sup> Families sell their daughters to buy opium, and lease their sons.<sup>47</sup> A burgeoning heroin addiction problem is compounding these issues.<sup>48</sup>

Removing the poppy fields would free an entire society from the opium haze in which it lives. At the same time, there would be no adverse economic effects on the poppy growers themselves because they could rely on U.S. subsidies as they changed from poppy crops to licit crops. For the numerous social benefits that

---

<sup>42</sup> In a more recent column, Cook estimates that the cost inflicted by drugs on OECD nations amounts to \$217 billion annually. See Cook, *Dear President Obama*, *supra* note 35. "OECD" stands for Organization for Economic Cooperation and Development, an organization located in Brussels, Belgium. Its members include the world's 30 largest economies, whose combined GDP exceeds \$60 trillion. See email from Walton Cook, Drug Policy Expert and Author (Apr. 18, 2010, 4:15 PST) (on file with Chapman Law Review).

<sup>43</sup> Rukmini Kallimachi, *Opium Addiction Ravages Afghan Families*, MSNBC, Aug. 9, 2009, <http://www.msnbc.msn.com/id/32317823/>.

<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

it will bestow, there is no time to lose in implementing the comprehensive alternative development program described.

B. Mycoherbicide Usage Would Be the Most Effective Method of Drug Eradication; Research Has Been Unreasonably Delayed

As a complement to alternative development programs, the United States should use mycoherbicides against poppy and coca plants. Mycoherbicides are naturally-occurring bioherbicide agents that are engineered to inoculate soil against the growth of certain plants, ensuring that the targeted plants cannot be economically grown.<sup>49</sup> Initial research on mycoherbicides, conducted by the United Nations Office on Drugs and Crime, indicates that mycoherbicides do not have adverse health or environmental effects.<sup>50</sup> They are also target-specific, meaning that they will have minimal or no effects on plants that they are not engineered to affect.<sup>51</sup>

At the end of 2006, President Bush signed into law Public Law 109-469.<sup>52</sup> The law requires that the Office of National Drug Control Policy (ONDCP) submit a “plan to conduct, on an expedited basis, a scientific study of the use of mycoherbicide as a means of illicit drug crop elimination . . . including a complete and thorough scientific review.”<sup>53</sup> The study, which was to be submitted no later than ninety days after the enactment of the law, was to include “an evaluation of the likely human health and environmental impacts of mycoherbicides derived from fungus naturally existing in the soil.”<sup>54</sup>

In its report, ONDCP proposed to “determine the feasibility of developing and implementing mycoherbicides as a means to eradicate illicit drug crops.”<sup>55</sup> The ONDCP selected the National Academy of Sciences’ National Research Council (NRC) as the

<sup>49</sup> Rachel Ehrenfeld, *Defeating Narco-Terrorism*, HUFFINGTON POST, Mar. 17, 2009, [http://www.huffingtonpost.com/dr-rachel-ehrenfeld/defeating-narco-terrorism\\_b\\_175537.html](http://www.huffingtonpost.com/dr-rachel-ehrenfeld/defeating-narco-terrorism_b_175537.html).

<sup>50</sup> See OFFICE OF NAT’L DRUG & CONTROL POLICY, EXECUTIVE OFFICE OF THE PRESIDENT, PLAN FOR CONDUCTING A SCIENTIFIC STUDY OF THE USE OF MYCOHERBICIDES IN ILLICIT DRUG CROP ERADICATION (2007) (citing to page 6 of the appendix, which is a Summary Report on Research and Development of an Environmentally Safe and Reliable Biological Control Agent for Opium Poppy of United Nations Office on Drugs and Crime), available at <http://publicpolicy.press.files.wordpress.com/2010/01/mycoherbicides1.pdf> [hereinafter ONDCP].

<sup>51</sup> See Cook, A Transformational Drug Policy Proposal, *supra* note 34, at 9.

<sup>52</sup> See Office of National Drug Control Policy Reauthorization Act § 1111, *supra* note 2.

<sup>53</sup> § 1111(a).

<sup>54</sup> § 1111(a).

<sup>55</sup> See *supra* note 50.

appropriate body to conduct the research.<sup>56</sup> More than three years have passed since the enactment of the law, and the research is still in the planning phases of development. Allegedly, it is delayed on account of a variety of bureaucratic backups, and it is unclear if the study has commenced. NRC's main division, the Board on Agriculture and Natural Resources, received a contract to commence work at the start of October 2009. Specifically, the study is supposed to investigate the effectiveness of mycoherbicide use, its potential toxicity to non-targeted organisms, its persistence in the environment, its potential for mutation and resulting toxicity to targeted and non-targeted organisms, the feasibility of large-scale manufacture and delivery, and research and development needed for implementation.<sup>57</sup>

ONDCP has allocated \$1.5 million to the project, which has a term of twelve to eighteen months.<sup>58</sup> The study was to commence upon the NRC's receipt of funds from the ONDCP, but it is currently unclear whether the transfer has occurred. The White House had not indicated whether this research had actually started as of the time of the writing of this article, which encompassed a period of days during which the federal government closed due to inclement winter weather.

#### CONCLUSION

Combining mycoherbicide drug eradication efforts with alternative development programs will further the United States' and United Nations' agenda to eradicate drugs, reduce crime, and fight poverty worldwide. This will also help to build stable and secure nations from those currently afflicted with terror and crime such as Afghanistan and Mexico. Moreover, it will help dry up a major source of funding to terrorists, criminal organizations, and countries such as North Korea and Iran.<sup>59</sup> This will render coca and opiate cultivation unprofitable, depriving criminal and terrorist organizations alike of billions of dollars. Thousands of lives will be saved as will billions of dollars that might otherwise be invested toward the stabilization of failed and developing countries.

---

<sup>56</sup> Board on Agriculture and Natural Resources, New Project—Scientific Review of the Feasibility [sic] of Mycoherbicides in Eradicating Illicit Drug Crops, [http://dels.nas.edu/banr/Myco\\_index.shtml](http://dels.nas.edu/banr/Myco_index.shtml) (last visited Apr. 17, 2010).

<sup>57</sup> Board on Agriculture and Natural Resources, Statement of Task: Scientific Review of the Feasibility of Mycoherbicides in Eradicating Illicit Drug Crops, [http://dels.nas.edu/banr/Myco\\_SOT.pdf](http://dels.nas.edu/banr/Myco_SOT.pdf).

<sup>58</sup> See ONDCP, *supra* note 50, at 3.

<sup>59</sup> Bertil Lintner, *North Korea's Burden of Crime and Terror*, ASIA TIMES, Apr. 20, 2007, <http://www.atimes.com/atimes/Korea/ID20Dg02.html>.

Should the NRC tests demonstrate that mycorrhizal use is optimal for drug eradication, it will mean that the United States possesses a means for winning the War on Terror and stabilizing some of the world's most conflict-ridden regions. If the White House equivocates on implementation when this science is settled, it will be abdicating its responsibility to protect and safeguard the American people, and many other nations, from the global threats posed by narco-terrorism.