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Endless Exemptions: An Environmental Justice Critique of the Ongoing Use of Methyl Bromide

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COMMENT

ENDLESS EXEMPTIONS:

AN ENVIRONMENTAL JUSTICE CRITIQUE OF THE ONGOING USE OF METHYL BROMIDE

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"It will be safe when we eliminate the chemicals. It is the only way."
- Jesus Lopez, Community Worker, California Rural Legal Assistance

I. INTRODUCTION

Methyl bromide has one purpose: it kills. Methyl bromide is manufactured to enable the rapid growth of commercial crops throughout the world by killing all insects, weeds, rodents, and pathogens in its way.[1] This single purpose, however, brings with it ozone depletion and health effects such as central nervous system and respiratory system failure, coma, convulsions, fetal defects, gross permanent disabilities, and death.[2]

The environmental and health effects of methyl bromide use are well known by the United States and the rest of the world. The Clean Air Act (CAA) and the Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol) mandated the complete phaseout of methyl bromide in the United States by 2005.[3] Today, well after the 2005 phaseout date, methyl bromide use continues under the Montreal Protocol through a system of "critical use exemptions" (CUEs).[4]

The Eighteenth Meeting of the Parties to the Montreal Protocol took place in New Delhi, India, in the fall of 2006.[5] At the meeting, the treaty

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[1] *Technology Transfer Network Air Toxics Website, Methyl Bromide (Bromomethane)*, Environmental Protection Agency, http://www.epa.gov/ttn/atw/hlthef/methylbr.html (last visited September 21, 2006) [hereinafter *Bromomethane*].

[2] *Methyl Bromide Questions & Answers*, Environmental Protection Agency, http://www.epa.gov/ozone/mbr/qa.html (last visited September 19, 2006).

[3] *See* Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, 26 I.L.M. 1541 (entered into force Jan. 1, 1989) [hereinafter Montreal Protocol]; Clean Air Act (CAA) § 604(a), 42 U.S.C.A. § 7671c(a) (Westlaw 2007); *"Critical Use" Exemptions -- the Methyl Bromide Loophole*, 15 GLOBAL PESTICIDE CAMPAIGNER, No. 2, at 8 (Aug. 2005), http://www.panna.org/resources/gpc/gpc_200508.15.2.pdf [hereinafter *Loophole*].

[4] *Loophole*, *supra* note 3, at 8.

[5] *Report of the Eighteenth Meeting of the Parties to the Montreal Protocol on Substances*

partners approved the use of just over 5,900 tons of methyl bromide for the 2008 critical-use needs of the United States.[6] These CUEs allow for ongoing use of methyl bromide to prevent market disruption.[7] The CUE system undermines the purpose of the methyl bromide phaseout by continuing to pump tons of methyl bromide into the earth's atmosphere and placing thousands of people, specifically farm workers, at risk of severe health problems. The disproportionate burden of health risks placed on farm workers – a population composed largely of low-income, minority immigrants – constitutes clear environmental injustice.[8]

This Comment is an environmental justice critique of the ongoing use of methyl bromide. Part II provides an overview of methyl bromide, the Montreal Protocol, the CAA, and the Executive Order on Environmental Justice. Part III critiques the system of CUEs by arguing that the ongoing use of methyl bromide, facilitated by the Environmental Protection Agency (EPA), places an undue burden on minority and low-income communities and, therefore, violates the Executive Order on Environmental Justice. In addition, Part III illustrates other instances in which the EPA has violated the Executive Order; argues that the CUE system violates the environmental and health policies behind the phaseout; examines the meaning of "critical" under both the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Montreal Protocol; and demonstrates that the CUE system prioritizes agribusiness profit over human health. Therefore, Part IV proposes alternatives to methyl bromide and shows that some alternatives satisfy the CAA criteria for sound alternatives by reducing the overall risk to human health and the environment, while others violate the criteria for sound alternatives. In analyzing alternatives to methyl bromide, Part IV discusses the importance of government commitment to alternative technologies, the pursuit of legal remedies, and the role of community organizing in developing solutions to the ongoing use of methyl bromide. Part V advocates for the immediate elimination of methyl bromide as the only guaranteed means of protecting the ozone layer and human health.

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that Deplete the Ozone Layer, United Nations Environment Programme, 16 Nov. 2006, http://ozone.unep.org/Meeting_Documents/mop/18mop/MOP-18-10E.pdf [hereinafter *Report of the Eighteenth Meeting*].

[6] *See* Rita Beamish, *U.S. Will Use Ozone-killing, Treaty-banned Pesticide*, THE COLUMBIAN, Nov. 4, 2006 [hereinafter Beamish, *U.S. Will Use*].

[7] *See Loophole*, *supra* note 3, at 8.

[8] *See* Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 11, 1994); *see generally* CLIFFORD RECHTSCHAFFEN & EILEEN GAUNA, ENVIRONMENTAL JUSTICE: LAW, POLICY & REGULATION (Carolina Academic Press 2002) (providing a comprehensive overview of the environmental justice movement).

II. BACKGROUND

A. METHYL BROMIDE

Methyl bromide is a broad-spectrum pesticide[9] that kills insects, weeds, rodents, and pathogens.[10] It is a colorless, highly volatile gas that is slightly soluble in water.[11] The primary use of methyl bromide is agricultural: as a fumigant in soil, of food commodities, and in storage facilities.[12] It is normally applied as a pressurized liquid that vaporizes upon release.[13]

Methyl bromide is used in a variety of ways by the agriculture industry. Before a crop is planted, methyl bromide is used as a soil fumigant: it is injected into the soil, which is then covered with plastic tarps.[14] This sterilizes the soil, killing the vast majority of soil organisms.[15] In the United States, methyl bromide is used mostly for tomatoes (23% of total use) and strawberries (18% of total use); it is also used as a soil fumigant for other crops such as tobacco, peppers, grapes, and nut and vine crops.[16] Fifty to 95% of methyl bromide injected into the soil enters the atmosphere.[17] Methyl bromide is also used for post-harvest pest control by injecting the pesticide into a chamber or under a tarp.[18] Eighty to 95% of the methyl bromide used for a typical

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[9] The EPA defines a pesticide as any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest. The term "pesticide" applies to herbicides, fungicides, and various other substances used to control pests. *About Pesticides*, Environmental Protection Agency, http://www.epa.gov/pesticides/about/index.htm (last visited Sept. 19, 2006).

[10] *Bromomethane*, *supra* note 1.

[11] Its chemical name is bromomethane, and its chemical formula is CH_3Br. Methyl bromide forms naturally from algae or kelp in the ocean. *Bromomethane*, *supra* note 1.

[12] *Bromomethane*, *supra* note 1.

[13] *Pesticides: Topical & Chemical Fact Sheets*, Environmental Protection Agency, http://www.epa.gov/pesticides/factsheets/chemicals/methylbromide_factsheet.htm#bkmrk1 (last visited Apr. 19, 2006) [hereinafter *Fact Sheets*].

[14] When used as a soil fumigant, methyl bromide gas is usually injected into the soil at a depth of 12 to 24 inches before a crop is planted. This effectively sterilizes the soil and kills the majority of soil organisms. Immediately after the methyl bromide is injected, the soil is covered with plastic tarps, which slow the movement of methyl bromide from the soil to the atmosphere. *Methyl Bromide Questions & Answers*, Environmental Protection Agency, http://www.epa.gov/ozone/mbr/qa.html#vif (last visited Sept. 19, 2006) [hereinafter *Questions & Answers*].

[15] *Questions & Answers*, *supra* note 14.

[16] *Fact Sheets*, *supra* note 13.

[17] Sondra Goldschein, *Methyl Bromide: The Disparity Between the Pesticide's Phaseout Dates Under the Clean Air Act and the Montreal Protocol on Substances that Deplete the Ozone Layer*, 4 ENVTL. LAW. 577, 579 (Feb. 1998).

[18] *Fact Sheets*, *supra* note 13.

commodity treatment eventually enters the atmosphere.[19]

In the early 1990s, many scientists began to believe that methyl bromide released into the atmosphere upset the balance in the stratosphere, which is essential for life to exist.[20] They found that emissions thin the ozone layer, increasing the radiation that reaches the earth's surface.[21] This increased radiation has a potential impact not only on the environment and human health (including leading to skin cancer), but also on agriculture.[22] In 1992, scientists estimated that methyl bromide was responsible for 5% to 10% of current worldwide ozone depletion.[23]

Because of methyl bromide's ozone-depleting effect and its ability to cause poisonings, neurological damage, and reproductive harm, the EPA classifies it as a Class I Ozone-Depleting Substance, the most deadly category of substances.[24] Methyl bromide shares this classification with substances such as carbon tetrachloride, methyl chloroform, and numerous chlorofluorocarbons and halons.[25] If growers continue to use methyl bromide, as they do in large quantities in the United States, the chemical could be responsible for as much as 15% of future ozone depletion.[26]

Approximately one third of pesticides used in California are known to be particularly toxic to humans.[27] Methyl bromide is listed among those pesticides classified as acute poisons, carcinogens, neurotoxins, and reproductive or developmental toxins.[28] These pesticides have been termed "bad actor" pesticides by the Pesticide Action Network of North America (PANNA), a nonprofit group committed to advancing alternatives to pesticides worldwide.[29]

Exposure to methyl bromide will affect not only the target pests it is

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[19] *Questions & Answers*, *supra* note 14.

[20] *Id.*

[21] *Id.*

[22] *Id.*

[23] *Soil Fumigant Facts*, 15 GLOBAL PESTICIDE CAMPAIGNER, No. 2, at 6 (Aug. 2005), http://www.panna.org/resources/gpc/gpc_200508.15.2.pdf.

[24] *Ozone Depletion: Class I Ozone-Depleting Substances*, Environmental Protection Agency, http://www.epa.gov/ozone/ods.html (last visited Nov. 10, 2006).

[25] *Id.*

[26] Alison McCook, *The Banned Pesticide in Our Soil*, 20 THE SCIENTIST 1, 40 (Jan. 2006), *available at* http://www.the-scientist.com/article/display/18858/ [hereinafter McCook, *Banned Pesticide*].

[27] *See* Margaret Reeves & Kristin S. Schafer, *Greater Risks, Fewer Rights: U.S. Farm workers and Pesticides*, 9 INT'L J. OCCUPATIONAL ENVTL. HEALTH 30, at 31 (2003) [hereinafter Reeves & Schafer, *Greater Risks*].

[28] *Id.*

[29] *Id.; see* http://www.panna.org.

intended for, but also non-target organisms.[30] Methyl bromide is most dangerous at the actual fumigation site because it dissipates so rapidly to the atmosphere.[31] The farm workers and communities closest to the fumigation sites are exposed to high concentrations of methyl bromide, which can result in central nervous system and respiratory system failure.[32] Common symptoms of exposure to methyl bromide include weakness, despondency, headache, visual disturbance, nausea, and vomiting.[33] Later, additional symptoms can develop, including numbness, defective muscular coordination, tremors, muscle spasms, lack of balance, extreme agitation, comas, and convulsions.[34] Exposure of pregnant women to methyl bromide may result in fetal defects.[35] Additionally, depending upon dose, gross permanent disabilities or death can result.[36]

B. THE MONTREAL PROTOCOL

Following the discovery of the Antarctic ozone hole in late 1985, governments worldwide recognized the need for stronger measures to reduce the production and consumption of ozone-depleting substances.[37] The European Union and twenty-three nations, including the United States, signed the Montreal Protocol on September 16, 1987, in Montreal, Canada.[38]

In its preamble, the Montreal Protocol recognizes that worldwide emissions of certain substances can significantly deplete and otherwise modify the ozone layer in a manner that is likely to result in adverse effects on human health and the environment.[39] For each group of ozone-

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[30] *Questions & Answers*, *supra* note 14.

[31] *Id.*

[32] *Id.*

[33] *Id.*

[34] *Id.*

[35] *Id.*

[36] Exposed persons have developed respiratory, gastrointestinal, and neurological problems, including inflammation of nerves and organs, and degeneration of eyes. Fumigation-related exposures have resulted in significantly higher incidences of throat and eye irritation, skin injuries, shortness of breath, pain in chest, nausea, fatigue, dizziness, numbness, and weakness of extremities. Exposure to high concentrations has resulted in a number of human deaths. *Questions & Answers*, *supra* note 14.

[37] *Montreal Protocol,* United Nations Environment Programme: Ozone Secretariat, http://ozone.unep.org/Treaties_and_Ratification/2B_montreal_protocol.asp (last visited Nov. 8, 2006).

[38] Montreal Protocol, *supra* note 3.

[39] *See* The Montreal Protocol on Substances that Deplete the Ozone Layer, United Nations Environment Programme 2000, http://hq.unep.org/ozone/Montreal-Protocol/Montreal-

depleting substances, the Montreal Protocol provides a timetable for the phaseout and eventual elimination of the production of those substances.[40] The ultimate objective of the Parties to the Montreal Protocol is to eliminate ozone-depleting substances.[41]

At the 1987 meeting, the Parties to the Montreal Protocol scheduled a phaseout of the production and consumption of certain controlled substances such as chlorofluorocarbons and halons.[42] At the April 1992 meeting of the Open-Ended Working Group of the Parties (OEWG), the United States suggested the addition of methyl bromide as a controlled substance.[43] This suggestion resulted in the OEWG calling for additional information on scientific, technical, and economic issues related to controls on methyl bromide.[44] The resulting Protocol Assessment Update report concluded that if human-made emissions of methyl bromide continued to increase at 1992 rates, methyl bromide would account for 5% to 10% of then-current depletion and one sixth of depletion in the year 2000.[45]

At the Fourth Meeting of the Parties to the Montreal Protocol, held in November 1992 in Copenhagen, the United States and many developed nations argued that action to restrict methyl bromide would make a significant contribution to global efforts to protect the ozone layer and that immediate restrictions on the production and consumption of this compound – with an exemption for essential uses – would be the appropriate course of action.[46] The Parties reached a consensus decision with the adoption of an amendment calling for a freeze on methyl bromide production and consumption, at 1991 levels, to begin in 1995.[47] Ultimately, the Parties agreed to phase out use of methyl bromide by 2005 in industrialized nations, and by 2015 in developing countries.[48]

The United States was initially an exemplary participant in the phaseout efforts.[49] In 2002, methyl bromide use in the United States declined to levels promised for 2003, a year ahead of schedule.[50] But when the January 2005 phaseout date arrived, United States methyl

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Protocol2000.shtml.

[40] *Id.*

[41] *Id.*

[42] Montreal Protocol, *supra* note 3, at 1561.

[43] Protection of Stratospheric Ozone, 58 Fed. Reg. 65,018, 65,031 (Dec. 10, 1993).

[44] *Id.*

[45] *Id.*

[46] *Id.* at 65,032.

[47] *Id.* at 65,032

[48] *See Loophole*, *supra* note 3, at 8.

[49] Protection of Stratospheric Ozone, *supra* note 43.

[50] *See Loophole*, *supra* note 3, at 8.

bromide use had increased, not decreased.[51] The increase in methyl bromide use during the phaseout is due to the Montreal Protocol's system of critical use exemptions (CUEs), which give a country permission to continue using a substance after its phaseout date.[52] The Parties to the Montreal Protocol initially allowed CUEs to provide for special circumstances, such as national security or medical uses with no alternatives.[53] However, in 1997 the exemptions set for methyl bromide introduced economic considerations as a factor to determine whether a use was "essential" so as to justify an exemption.[54] At the Montreal Protocol meeting in 2004, the United States requested the largest critical use allowance of methyl bromide, reversing the successful reductions of previous years by increasing use for 2005-2007 over the level achieved in 2002.[55]

The original policy behind CUEs was similar to the "emergency conditions" allowed under section 18 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), which provides that the EPA Administrator may, at the Administrator's discretion, exempt any federal or state agency from any provision of the subchapter if the Administrator determines that *emergency conditions* exist that require such an exemption.[56] In allowing economic considerations to determine CUE allotment, some claim that the Montreal Protocol broadened the term "critical use" to such an extent that it effectively undermined the purpose of the phaseout. The result is an international treaty under which countries compete for exemptions instead of conducting research for viable alternatives to methyl bromide.[57]

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[51] *Id.*

[52] CUEs must be agreed to by an international panel of governmental representatives from countries that are the Parties to the Montreal Protocol. In the United States, the government decides what to nominate to the international panel based on the review of application materials by the EPA, the Department of Agriculture, and the State Department. The U.S. government then nominates uses for approval on behalf of U.S. interests and must defend the nominations and effectively persuade the international committee (the Technology and Economic Assessment Panel or TEAP and the Methyl Bromide Technical Option Committee or MBTOC, which make recommendations to the Parties) that there is in fact a critical need. *Frequently Asked Questions About the Methyl Bromide Critical Use Exemption (CUE) Process*, Environmental Protection Agency, http://www.epa.gov/pesticides/factsheets/chemicals/mbrcue_qa.htm (last visited Oct. 24, 2006) [hereinafter *Frequently Asked Questions*].

[53] *See Loophole, supra* note 3, at 8.

[54] *Id.*

[55] *See Loophole, supra* note 3, at 8.

[56] Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) § 18, 7 U.S.C.A. § 136p (Westlaw 2007).

[57] *See* Alison McCook, *Web Extra: Unseating Methyl Bromide,* THE SCIENTIST, http://www.thescientist.com/article/display/22925/ (last visited Sept. 20, 2006) [hereinafter McCook, *Unseating Methyl Bromide*]; McCook, *Banned Pesticide, supra* note 26.

C. THE CLEAN AIR ACT

The Clean Air Act (CAA) regulates domestic methyl bromide use through both the National Emission Standards for Hazardous Air Pollutants and the Phaseout of Ozone Depleting Substances.[58] The CAA lists methyl bromide as a "hazardous air pollutant."[59] Because of the acute toxicity of hazardous air pollutants, section 112 of the CAA requires the EPA to establish standards that impose emission controls reflecting use of maximum achievable control technology, with more stringent standards imposed later if necessary to protect public health with an "ample margin of safety."[60] In section 112, methyl bromide joins almost 200 hazardous air pollutants including asbestos, formaldehyde, hydrochloric acid, phosphorus, arsenic compounds, and mercury compounds.[61]

On November 15, 1990, President George H.W. Bush signed the Clean Air Act Amendments, which included the Phaseout of Ozone-Depleting Substances.[62] Section 604 mandates the phaseout of production and consumption of Class I substances such as carbon tetrachloride and methyl chloroform.[63] Section 604 codifies the phaseout of methyl bromide, also a Class I substance, in its own subsection, stating that the EPA Administrator shall not terminate production of methyl bromide prior to January 1, 2005.[64] Further, it states that the Administrator shall promulgate rules for reductions in, and terminate the production, importation, and consumption of, methyl bromide under a schedule that is in accordance with, but not more stringent than, the phaseout under the Montreal Protocol Treaty.[65]

The CAA Stratospheric Ozone Protection contains language that calls for consistency with the Montreal Protocol and its amendments.[66] Both the CAA and the Montreal Protocol focus on protection of the ozone layer as the main purpose of the phaseout of methyl bromide, but

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[58] National Emission Standards for Hazardous Air Pollutants, CAA § 112(b), 42 U.S.C.A. § 7412(b) (Westlaw 2007); Phaseout of Ozone-Depleting Substances, CAA §§ 601-617, 42 U.S.C.A. §§ 7671-7671q (Westlaw 2007).

[59] CAA § 112(b), 42 U.S.C.A. § 7412(b) (Westlaw 2007).

[60] *See* ROBERT V. PERCIVAL & CHRISTOPHER H. SCHROEDER, ENVIRONMENTAL LAW: STATUTORY AND CASE SUPPLEMENT WITH INTERNET GUIDE 2006-2007, at 485 (Aspen Publishers, Inc. 2006).

[61] *See* CAA § 112(b), 42 U.S.C.A. § 7412(b) (Westlaw 2007).

[62] *See* PERCIVAL & SCHROEDER, *supra* note 60, at 484.

[63] CAA § 604(a), 42 U.S.C.A. § 7671c(a) (Westlaw 2007).

[64] CAA § 604(h), 42 U.S.C.A. § 7671c(h) (Westlaw 2007).

[65] *Id.*

[66] CAA §§ 601-618, 42 U.S.C.A. §§ 7671-7671q (Westlaw 2007).

both also explicitly articulate the goal of protecting human health.[67]

The CAA Safe Alternatives Policy states that "to the maximum extent practicable, Class I and Class II substances shall be replaced by chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to human health and the environment."[68] In articulating its policy behind finding safe alternatives to methyl bromide, the CAA provides equally for protection of human health and protection of the environment.[69]

D. THE EXECUTIVE ORDER ON ENVIRONMENTAL JUSTICE

The severe health effects caused by exposure to methyl bromide became apparent in the mid-1980s after numerous instances of farm worker poisonings.[70] During that time, community groups began organizing to draw public attention to the unequal treatment of farm worker communities. Communities of color alarmed conventional environmental organizations, regulators, and industry stakeholders with allegations of "environmental racism."[71] These charges reflected long-standing frustration on the part of such communities and the view that people of color systematically received disproportionately greater environmental risk, while white communities systematically received better environmental protection.[72] Varied grassroots movements grew into a national campaign called the environmental justice movement.[73]

In 1994, largely in response to pressure from communities of color organized to fight for environmental justice, President Clinton signed the Executive Order on Environmental Justice.[74] This order is binding on all federal agencies, requiring them to make environmental justice part of their mission.[75] Along with the Executive Order, President Clinton

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[67] *See* CAA § 602(e), 42 U.S.C.A. § 7671a(e) (Westlaw 2007); CAA § 612, 42 U.S.C. § 7671k (Westlaw 2007); Montreal Protocol, *supra* note 3.

[68] CAA § 612(a), 42 U.S.C.A. § 7671k(a) (Westlaw 2007).

[69] *See id.*

[70] *See* Zachary Stahl, *Poisoned Harvest Field Workers are Still Exposed to Dangerous Chemicals, 20 Years After a Landmark Field-Posting Victory*, MONTEREY COUNTY WEEKLY, July 17, 2003.

[71] RECHTSCHAFFEN & GAUNA, *supra* note 8, at 3.

[72] *Id.*

[73] *See generally* RECHTSCHAFFEN & GAUNA, *supra* note 8; LUKE W. COLE & SHEILA R. FOSTER, FROM THE GROUND UP: ENVIRONMENTAL RACISM AND THE RISE OF THE ENVIRONMENTAL JUSTICE MOVEMENT (New York University Press 2001) (providing a comprehensive overview of the environmental justice movement).

[74] Exec. Order, *supra* note 8.

[75] *Id*; *see generally* RECHTSCHAFFEN & GAUNA, *supra* note 8.

included a memorandum for the heads of all departments and agencies.[76] It stated, in part, that the purpose of the Executive Order is to promote nondiscrimination in federal programs substantially affecting human health and the environment, and to provide minority communities and low-income communities access to public information on, and an opportunity for public participation in, matters relating to human health or the environment.[77]

The order does not create a new legal remedy, but it mandates that federal agencies implement actions to identify and address the disproportionately severe and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations.[78] Thus, an agency violates the order if its actions disparately impact a minority or low-income group and the agency fails to take action to identify and address the disparity.

The EPA, like many federal agencies, has articulated its own definition of environmental justice pursuant to the Executive Order:

> Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. EPA has this goal for all communities and persons across this Nation. It will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work.[79]

By "fair treatment," the agency means that no group of people, including any racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.[80]

The EPA has been widely criticized for its failure to implement the Executive Order. Much of this criticism arose in June 2005, when the EPA considered a drastic change to its definition of environmental

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[76] Memorandum for the Heads of all Departments and Agencies, 1 PUB. PAPERS 241 (Feb. 11, 1994).

[77] *Id.*

[78] *See* Exec. Order, *supra* note 8.

[79] *Environmental Justice*, Environmental Protection Agency http://www.epa.gov/compliance/environmentaljustice/index.html (last visited Sept. 26, 2006).

[80] PERCIVAL & SCHROEDER, *supra* note 60, at 1.

justice.[81] The EPA released a draft Environmental Justice Strategic Plan (EJSP) that proposed eliminating identifications of race, class, minority, and low-income communities as central to its environmental justice programs and decisionmaking.[82] In response to the draft EJSP, seventy-six United States Senators and Representatives signed a July 21, 2005, letter of concern, and local and national organizations commented to the EPA about the importance of maintaining the identifications central to environmental justice.[83] In response to this criticism, the EPA Administrator released a November 4, 2005, memorandum to the agency, the regional offices, and the inspector general reaffirming the EPA's commitment to environmental justice.[84]

Protecting the health of low-income, minority populations lies at the core of the environmental justice movement.[85] Methyl bromide use exemplifies the need for the Executive Order's implementation of environmental justice, because the majority of people working with the toxic pesticide are low-income, immigrant workers.[86] In the case of methyl bromide, workers who inhale enough of the gas can suffer from convulsions, coma, neuromuscular and cognitive problems; in rare cases, prolonged exposure is fatal.[87]

Farm workers handling pesticides directly are mostly immigrants, and many of the pesticide poisonings and exposures go unreported.[88] Pesticide-related incidents in California are often unaccounted for because many farm workers do not have health insurance, fear retaliation from employers, or are not provided sufficient pesticide hazard training to recognize symptoms of pesticide poisoning.[89] The statutorily mandated phaseout of methyl bromide could be a very effective tool to minimize and eventually eliminate the health risks to farm workers from

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[81] *Race, Class and the EPA's Environmental Justice Strategic Plan*, Urban Habitat, http://urbanhabitat.org/epa (last visited Oct. 24, 2006) [hereinafter *EJSP*].

[82] *Id.*

[83] *Id*; Caro, Christina, *Comments on U.S. EPA's Environmental Justice Strategic Plan Framework and Outline*, Golden Gate University Environmental Law and Justice Clinic, July 15, 2005 (copy on file with author).

[84] *EJSP*, *supra* note 81.

[85] *See generally* COLE & FOSTER, *supra* note 73; RECHTSCHAFFEN & GAUNA, *supra* note 8.

[86] Reeves & Schafer, *Greater Risks*, *supra* note 27, at 37.

[87] Rita Beamish, *Pesticide Still Used Despite Ban: U.S. Uses Exemptions to Let Farmers Apply Methyl Bromide*, MONTEREY COUNTY HERALD, Nov. 28, 2005 [hereinafter Beamish, *Pesticide Still Used*].

[88] *See generally* Reeves & Schafer, *Greater Risks*, *supra* note 27 (discussing trends in farm worker communities that result in underreporting of pesticide exposure); MARGARET REEVES ET AL., FIELDS OF POISON 2002: CALIFORNIA FARM WORKERS AND PESTICIDES (Californians for Pesticide Reform 2002) (discussing the process of making an official report of pesticide exposure).

[89] Reeves & Schafer, *Greater Risks*, *supra* note 27 at 37.

handling methyl bromide.

One group that has long been organizing to fight for environmental justice is the United Farm Workers Union (UFW).[90] Founded in the 1960s by Cesar Chavez and Dolores Huerta, the UFW campaigned for farm worker rights, for protection from dangerous pesticides, and for pesticide reform.[91] The UFW has been recognized as one of the first nationally known movements by people of color to organize directly around environmental reform.[92] One of the UFW's successful campaigns involved bringing lawsuits that ultimately led the United States government to ban the dangerous pesticide dichloro-diphenyl-trichloroethane, commonly known as DDT.[93]

Guillermo Ruiz and Jorge Fernández are two California farm workers who have worked extensively with methyl bromide.[94] They have stated that they realized how dangerous methyl bromide was when they saw dogs, birds, and deer that lay lifeless when they removed plastic sheeting from fumigated fields.[95] Mr. Ruiz believes that his headaches, confusion, and vision trouble stem from a decade of working in the fields with methyl bromide.[96]

Farm workers are not the only people who feel the risks of exposure to methyl bromide. Lynda Uvari and other residents in her town of Ventura, California, thought that they had the flu a few years ago, until they realized that their illness coincided with fumigation of a nearby strawberry field.[97] Uvari is a member of the Board of Directors of Community & Children's Advocates Against Pesticide Poisoning (CCAAPP) in Ventura.[98] Through grassroots organizing, Uvari, members of CCAAPP, and residents of Ventura who were exposed to methyl bromide succeeded in settling a suit with the strawberry grower.[99]

Methyl bromide causes significant emotional effects in large

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[90] *See generally* United Farm Workers website, http://www.ufw.org (last visited June 3, 2007) (providing information about the history of the UFW and its current campaigns).

[91] *See UFW Successes Through the Years*, United Farm Workers website, http://www.ufw.org (follow "Research, History" hyperlink; then follow "UFW Successes Through the Years" hyperlink) (last visited Nov. 26, 2006).

[92] *See* COLE & FOSTER, *supra* note 73, at 27.

[93] *Id.*

[94] *See* Beamish, *Pesticide Still Used*, *supra* note 87.

[95] *Id.*

[96] *Id.*

[97] *Id.*

[98] *See* Community & Children's Advocates Against Pesticide Poisoning website http://nice2people.com/organizations/ccaapp.htm (last visited June 3, 2007) (showing that Ms. Uvari is a member of the Board of Directors).

[99] *See* Beamish, *Pesticide Still Used*, *supra* note 87.

populations of people, in addition to the severe physical health effects it causes in those exposed to it.[100] Its continued use makes people like Ms. Uvari very uneasy; after settling the lawsuit, she now wonders whether methyl bromide could be linked to her son's endocrine problems.[101] Uvari has stated, "that's in the back of our minds all the time . . . you always question."[102]

The environmental justice movement continues to grow, as numerous community groups and nonprofit organizations advocate, educate, organize, and litigate with a mission of ensuring that state and federal agencies comply with the Executive Order.[103] Communities in the midst of environmental struggles are transformed by learning about, and participating in, decisions that will fundamentally affect their quality of life.[104]

III. A CRITIQUE OF CRITICAL USE EXEMPTIONS

A. CRITICAL USE EXEMPTIONS VIOLATE THE EXECUTIVE ORDER ON ENVIRONMENTAL JUSTICE

The ongoing use of methyl bromide, facilitated by the EPA under the Montreal Protocol's CUE system, has a disproportionate effect on the health and environment of minority farm workers who handle methyl bromide and who live near the fields where methyl bromide is used.[105] This clearly violates the requirement that federal agencies implement environmental justice.[106]

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[100] *Id.*

[101] *Id.*

[102] *Id.*

[103] This Comment mentions only a handful of the many groups fighting for environmental justice. Those mentioned throughout this Comment are California Rural Legal Assistance (CRLA); the United Farm Workers (UFW); the Center on Race, Poverty & the Environment (CRPE); the Pesticide Action Network (PAN); Natural Resources Defense Council (NRDC); Sierra Club; Center for the Health Analysis of Mothers and Children of Salinas (CHAMACOS); Beyond Pesticides; and People Organizing to Demand Environmental and Economic Rights (¡PODER!).

[104] *See* COLE & FOSTER, *supra* note 73, at 14.

[105] *See* Stahl, *supra* note 70; *Latino Communities at Risk – Salinas, CA: Methyl Bromide Poisoning Devastates Farm Workers' Health*, Sierra Club, http://www.sierraclub.org/comunidades/ingles/salinas.asp (last visited Apr. 19, 2006) [hereinafter *Latino Communities at Risk*]; Beamish, *Pesticide Still Used*, *supra* note 87.

[106] *See* Exec. Order, *supra* note 8.

i. *The Executive Order Focuses on Minority Communities, Health, and the Environment*

By carrying out the Montreal Protocol's CUE process, the EPA allows agribusiness to continue using methyl bromide. Thus, the EPA facilitates a system that continues to place the toxic chemical in the hands of farm workers, a workforce that is over 80% Hispanic.[107] The EPA has stated that in implementing the Executive Order its goal is to ensure that *everyone* enjoys the same degree of protection from environmental and health hazards.[108] However, because of the disproportionate health risks imposed on farm workers, the EPA is actually authorizing the ongoing exposure to methyl bromide of a largely minority workforce. The problem of pesticide exposure is exacerbated in farm worker communities due to economic insecurity, poor housing, language barriers, lack of health insurance, and poor work conditions.[109]

Further, not only farm workers are exposed to methyl bromide, but also low-income communities in agricultural areas where methyl bromide is used. In 2000, Pajaro, California, in the agricultural belt of California's Central Coast, had a population of approximately 3,300 people, 20% of whom lived below poverty level.[110] This is a significantly larger percentage than the nationwide average of 9% living below poverty level.[111] In 2001, when air-monitoring devices detected elevated methyl bromide levels in the area where the Pajaro Middle School is located, county officials responded to the community outcry by pressing the grower to stop using methyl bromide.[112] Shortly thereafter, the grower stopped using methyl bromide on the fields nearest the school.[113] The examples of methyl bromide exposure in the Pajaro and Ventura communities illustrate not only that grassroots organizing can have a successful outcome, but also that exposure to methyl bromide affects a wider population of people than merely those working with the pesticide.

Farm workers and low-income communities are disproportionately

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[107] *Findings from the National Agricultural Workers Survey 2001-2002: A Demographic and Employment Profile of United States Farm Workers*, United States Department of Labor, http://www.dol.gov/asp/programs/agworker/report9/chapter1.htm (last visited Oct. 25, 2006).

[108] *Environmental Justice*, Environmental Protection Agency, http://www.epa.gov/compliance/environmentaljustice/index.html (last visited Sept. 26, 2006).

[109] Reeves & Schafer, *Greater Risks*, *supra* note 27 at 37.

[110] *Pajaro CDP, California: Census 2000 Demographic Profile Highlights*, United States Census Bureau, http://www.census.gov (find "Population Finder" field; then enter "Pajaro, California"; then follow "Fact Sheet" hyperlink) (last visited June 3, 2007).

[111] *Id.*

[112] Beamish, *Pesticide Still Used*, *supra* note 87.

[113] *Id.*

exposed to methyl bromide. This type of injustice is a direct consequence of an agency's failure to follow the Executive Order, which mandates the implementation of environmental justice. The EPA itself states that environmental justice will be achieved "when *everyone* enjoys the same degree of protection from environmental and health hazards."[114]

The phaseout of methyl bromide had the potential to halt all future instances of methyl bromide's disproportionate and adverse effects on the health and environment of minority and low-income communities. The CUE program has not only undermined the intention of the Montreal Protocol, but also returned the United States to a pattern of methyl bromide use that disproportionately impacts minority and low-income populations.[115] This is a clear violation of the Executive Order on Environmental Justice and, as such, the CUE loophole in the Montreal Protocol should be closed immediately.

ii. Criticisms of the EPA's Failure to Implement Environmental Justice

The EPA has been criticized for failing to vigorously implement the Executive Order on Environmental Justice.[116] For example, in developing a rule to reduce the sulfur content of gasoline, the EPA determined that the rule would result in a decrease in pollution emitted by automobiles, but an *increase* in pollution near the oil refineries, due to the process of removing the sulfur.[117] This raised environmental justice concerns because minority and low-income communities were disproportionately located near such refineries.[118] However, when the EPA responded to comments that raised these environmental justice concerns, it did not publish its estimate that potentially harmful emissions would increase in twenty-six of the eighty-six counties with refineries affected by the rule.[119] By not disclosing the information about increased emissions, the EPA violated the Executive Order because it prevented decisionmaking and participation by the low-income and minority groups most affected

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[114] *Environmental Justice*, Environmental Protection Agency http://www.epa.gov/compliance/environmentaljustice/index.html (last visited Sept. 26, 2006) (emphasis added).

[115] *See* Beamish, *U.S. Will Use*, *supra* note 6.

[116] *See* ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 20 (5th ed. 2006).

[117] *Id.*

[118] *Id.*

[119] U.S. Government Accountability Office, *EPA Should Devote More Attention to Environmental Justice When Developing Clean Air Rules*, p. 4 (July 2005), available at http://www.gao.gov/htext/d05289.html; PERCIVAL ET AL., *supra*, note 116.

by the program.[120]

Similar to the sulfur reduction program, the Montreal Protocol's CUE allotments disproportionately affect minorities and low-income communities.[121] Overall, the Montreal Protocol phaseout reduces the amount of methyl bromide used, which helps protect the ozone layer from depletion.[122] However, because methyl bromide is handled mostly by farm workers and is sprayed in low-income agricultural areas, the CUE system is actually bringing about disproportionate impacts.

The EPA has also received criticism in reaction to its Environmental Justice Strategic Plan (EJSP), which proposed eliminating identifications of race, class, minority or low-income communities as central to its environmental justice programs and decisionmaking.[123] Although the central purpose of environmental justice is to assure equal treatment of low-income and minority communities, the EPA's EJSP takes the position that environmental justice should apply to all communities regardless of income and race.[124] The EJSP is at odds with the foundation of the environmental justice mandate, because it erroneously does away with the identifying factors of race and income, which cannot be ignored if all communities are to be treated equally.[125]

Even under a definition of environmental justice that explicitly mentions low-income and minority groups, the EPA facilitated the CUE system, which disproportionately places the impacts of methyl bromide use on low-income, minority farm workers.[126] CUE allotments currently dominate the focus of the Montreal Protocol in a way that makes it easy to forget that the original purpose behind the phaseout of methyl bromide was to prevent ozone depletion. The goal of President Clinton's Executive Order implementing environmental justice would be violated if the EJSP succeeded in eliminating from its environmental justice consideration the variables of low-income or minority communities.[127]

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[120] *See* COLE & FOSTER, *supra* note 73, at 14-15.

[121] *See Findings from the National Agricultural Workers Survey 2001-2002: A Demographic and Employment Profile of United States Farm Workers*, United States Department of Labor, http://www.dol.gov/asp/programs/agworker/report9/chapter1.htm (last visited Oct. 25, 2006); Reeves & Schafer, *Greater Risks, supra* note 27.

[122] *See Methyl Bromide Questions & Answers*, Environmental Protection Agency, http://www.epa.gov/ozone/mbr/qa.html#q3 (last visited Sept. 19, 2006).

[123] *EJSP, supra* note 81.

[124] *Id.*

[125] *See generally* Caro, *supra* note 83 (detailing the inconsistencies between the EJSP and the Executive Order on Environmental Justice); Exec. Order, *supra* note 8.

[126] *Frequently Asked Questions, supra* note 52.

[127] *See generally* Caro, *supra* note 83.

B. CRITICAL USE EXEMPTIONS VIOLATE ENVIRONMENTAL AND HEALTH POLICIES BEHIND THE PHASEOUT

The Eighteenth Meeting of the Parties to the Protocol took place in New Delhi, India, from October 28 to November 3, 2006.[128] At the meeting, treaty partners approved use of just over 5,900 tons of methyl bromide for the 2008 critical-use needs of the United States.[129] United States stockpiles of methyl bromide far exceed that amount, but the nations agreed that the United States could meet the critical-use needs by manufacturing more than 5,000 tons of *new* methyl bromide; the stockpiles could then be drawn down to meet the remaining 900 tons of the agreed-on use.[130] The decision overcame the objections of European nations and despite the recommendation of the treaty's own technical committee, which had urged a more substantial cut in the United States request on grounds that other countries have proved that alternative chemicals and methods can successfully replace methyl bromide.[131]

In 2005, the CUE process left the United States 37% shy of the phaseout required by 2005, with at least 10,450 tons of exempted methyl bromide.[132] While that is significantly less than the approximately 28,080 tons used in 1991, the total in 2005 was *higher* than it was just two years before.[133] How can methyl bromide use be on the rise under a supposed phaseout? The answer may be found by examining what is considered a "critical" use under the Montreal Protocol's CUE process.

i. "Critical" Under FIFRA

In deciphering the term "critical" under the Montreal Protocol CUE system, it is helpful to compare the CUE process with Section 18 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). FIFRA provides for regulation of the interstate marketing of pesticide products.[134] Under Section 18 of FIFRA, the EPA Administrator may exempt any federal or state agency from any provision of the subchapter if the Administrator determines that *emergency conditions* exist that

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[128] *Report of the Eighteenth Meeting, supra* note 5.

[129] *See* Beamish, *U.S. Will Use, supra* note 6.

[130] *Id.*

[131] *Id.*

[132] *Id.*

[133] *See id.*

[134] *See* 7 U.S.C.A. § 136 *et seq.* (Westlaw 2007); PERCIVAL & SCHROEDER, *supra* note 60, at 323.

require such exemption.[135] Normally, a federal or state agency would submit a FIFRA exemption application to the EPA for review and approval.[136] But if the emergency is of such urgency that a federal or state agency does not have enough time to submit the application and wait for the EPA's approval, then that agency may issue a crisis exemption, which is effective for fifteen days.[137]

One example of an emergency condition is that of anthrax contamination. In order to handle all anthrax contamination cases as quickly as possible, the EPA has decided to issue all crisis exemptions itself.[138] To obtain a crisis exemption from the EPA for the unregistered use of a pesticide against anthrax, a state or federal agency must submit a detailed written request describing the antimicrobial products to be used; how, when, and where they will be used; data demonstrating efficacy; and how human health and safety will be protected.[139] Prior to issuing the exemption, the EPA will perform a multi-disciplinary risk assessment of the requested use, relying on data supplied for the pesticide.[140] If, during this review, the EPA notes any adverse human health or environmental concerns, it may deny the exemption request.[141] However, if the EPA believes that the proposed use of an antimicrobial product will be effective while protecting human health and the environment, the EPA will issue a crisis exemption.[142]

Thus, under Section 18 of FIFRA, the Administrator must determine that emergency conditions exist, and effects on the environment and human health are factors that must be considered in determining whether to issue an exemption.[143]

ii. "Critical" Under the Montreal Protocol

An international committee of governmental representatives from countries throughout the world (the Parties to the Montreal Protocol) must agree to the grant of CUEs.[144] For CUEs granted to the United States, methyl bromide users must file applications with the EPA.[145] The

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[135] FIFRA § 18, 7 U.S.C.A. § 136p (Westlaw 2007) (emphasis added).

[136] *Fact Sheets*, *supra* note 13.

[137] *Id.*

[138] *Id.*

[139] *Id.*

[140] *Id.*

[141] *Id.*

[142] *Fact Sheets*, *supra* note 13.

[143] *Frequently Asked Questions*, *supra* note 52; *Id.*

[144] *Frequently Asked Questions*, *supra* note 52.

[145] *Id.*

United States government then nominates uses for approval on behalf of United States interests, defends the nominations, and effectively persuades the international committee[146] that there is in fact a critical need.[147] The United States government decides what to nominate based on the review of application materials by the EPA, the United States Department of Agriculture, and the United States Department of State.[148]

As previously discussed, under Section 18 of FIFRA, the Administrator must determine that "emergency conditions exist."[149] Under the CUE program, the applicants must demonstrate that no technically and economically feasible alternatives exist, that associated use and emissions from methyl bromide are minimized, and that there have been and will be past and future efforts to find alternatives.[150]

The CUE criteria under the Montreal Protocol differ significantly from the FIFRA "emergency conditions."[151] While the United States initially proposed the phaseout of methyl bromide, its focus has shifted from phasing out methyl bromide to defending the exemption of large amounts of methyl bromide from the phaseout.[152] Consider the questions and answers below from the EPA's *Frequently Asked Questions About the Methyl Bromide Critical Use Exemption (CUE) Process*:

> Question: "How does the Methyl Bromide (MeBr) Critical Use Exemption (CUE) program compare with the Section 18 program?"
>
> Answer: "Because the criteria differ and because an international panel must review and consent to the U.S. nominations, the information needed by the U.S. government to 'make the case' [for CUEs] is more detailed than what is typically submitted under the Section 18 program. In short, in order to defend the U.S. nomination at an international level, EPA is requesting sufficient information to help [the] U.S. representative present a solid justification for the U.S. nomination decisions."
>
> Question: "How flexible will EPA be in its review of the CUE applications? Will an application be rejected if every question is not

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[146] The "committee" makes recommendations to the Parties to the Montreal Protocol and is made up of the Technology and Economic Assessment Panel (TEAP) and the Methyl Bromide Technical Option Committee (MBTOC).

[147] *Frequently Asked Questions, supra* note 52.

[148] *Id.*

[149] *Id.*

[150] *Id.*

[151] *See id.*; FIFRA § 18, 7 U.S.C.A. § 136p (Westlaw 2007).

[152] *See Frequently Asked Questions, supra* note 52.

answered?"

Answer: "EPA will not summarily reject applications for trivial, or even substantial, omissions. EPA will work with affected applicants to find flexible ways to address the information needs requested in the application."

Question: "How much assistance will EPA provide users in applying for a CUE?"

Answer: "Please feel free to contact us at any time throughout the application. EPA wants to develop a dialogue with each applicant. The Agency will strive to meet as often as it takes to work together through the process. Because different applicants are likely to encounter different challenges, the June/July workshops have been designed to provide individualized attention. Throughout the workshops, the Agency is noting common questions and will post answers on our website. . .The Agency is also forming teams to work even more closely with particularly challenging situations."[153]

The above questions and answers illustrate the EPA's role of not only facilitating CUE applications, but defending the United States nominations at an international level.[154] Nowhere in the EPA's *Frequently Asked Questions About the Methyl Bromide Critical Use Exemption (CUE) Process* are health risks, environmental impact, or environmental justice concerns addressed.[155] The CUE application process ignores the statutory and policy reasons behind the phaseout of methyl bromide in favor of an economic feasibility analysis.

C. CRITICAL USE EXEMPTIONS PRIORITIZE AGRIBUSINESS PROFIT OVER HUMAN HEALTH

In 1997, the exemptions set for methyl bromide allowed economic considerations to determine whether a use was "essential" to justify an exemption.[156] At the Montreal Protocol Meeting in 2004, the United States requested by far the largest "critical use" allowance, reversing the successful reduction of previous years by increasing use for 2005-2007 over the level achieved in 2002.[157] The Parties denied the United States

[153] *Id.*
[154] *Id.*
[155] *Id.*
[156] *Loophole, supra* note 3, at 8.
[157] *Id.*

proposal but still granted the United States 9,500 tons for 2005, allowing methyl bromide use in the United States to increase from that of the previous year.[158]

When the United States first proposed exemptions in 2004, on a scale that would effectively reverse the United States phaseout, Vanessa Bogenholm, an organic strawberry grower and chair of the board of California Certified Organic Farmers, testified at the meeting.[159] She stated that growers "have all known that this phaseout was coming for many years and should have been doing major field-size research trials.... [F]inancial concerns of individual farmers cannot be considered more important than environmental concerns or the health concerns of human beings."[160] Ms. Bogenholm's statements illustrate that the economic focus of the CUE system prioritizes economics over human health and the environment. As a result, in 2005, the year the phaseout was supposed to be completed, the total use of methyl bromide in the United States was *higher* than it was in 2003.[161]

David Doniger, a senior attorney with the Natural Resources Defense Council, says that this post-phaseout "phase-in" of methyl bromide is not what the Montreal Protocol envisioned.[162] Mr. Doniger, who in the 1990s worked on the Montreal Protocol as director of climate change for the EPA, states that nobody expected that exemptions would be used to cancel the final step of the phaseout or to go backward.[163]

i. Severity of Health Effects From Methyl Bromide

The EPA rates methyl bromide among the most powerful class of toxic chemicals.[164] Mr. Fernández and Mr. Ruiz of Salinas, California, now understand the severe toxicity of methyl bromide all too well. For twelve years, both men worked with methyl bromide in dozens of fields in California and Arizona.[165] Today, Mr. Fernández's and Mr. Ruiz's

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[158] *See id.*; United Nations Environment Programme, Report of Second Extraordinary Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, http://ozone.unep.org/Meeting_Documents/mop/2ex_mop/2ex_mop-3.e.pdf, p. 6 (last visited July 23, 2007).

[159] *Loophole, supra* note 3, at 8.

[160] *Id.*

[161] *See* Beamish, *Pesticide Still Used, supra* note 87.

[162] *See id.*

[163] *Id.*

[164] *Latino Communities at Risk, supra* note 105; *Heavy Methyl Bromide Use Near California Schools: Health Effects of Methyl Bromide,* Environmental Working Group, http://www.ewg.org/node/7953 (last visited July 15, 2007).

[165] *Latino Communities at Risk, supra* note 105.

health is devastated by blurred vision; rashes; head, throat, ear, and abdomen aches.[166] Mr. Fernández, who has been unable to work since September of 2003, reflects that he was never informed that methyl bromide was harmful.[167] He now knows that after cutting the tarps that cover the fields, the crew should have waited twenty-four hours before removing them, instead of being sent in right away.[168] Mr. Ruiz says that the field supervisors would just give them plastic pants and paper masks, which provided no protection against inhalation of methyl bromide.[169] There were days when he could not speak because of the burning sensation in his throat that would develop within several hours after exposure to the gas.[170] These severe health effects are exacerbated by the economic insecurity, poor housing, language barriers, lack of health insurance, and poor working conditions that are common in farm worker communities.[171] Mr. Fernández observes, "We get to do this job just because we are Mexicans. Why doesn't Mr. Bush come and do it instead?"[172]

ii. Political Power of United States Agribusiness

Mr. Fernández's sentiments about the Bush Administration are shared among many activist groups that are critical of the powerful agricultural lobby and its effect on Washington.[173] Nowhere does the Executive Order state that federal agencies shall ensure environmental justice so long as it does not result in significant market disruptions.[174] Yet, "significant market disruption" is the current standard for allowing CUEs and ongoing use of methyl bromide.[175]

The power of the agriculture industry and its influence on the Bush administration explains the treaty-defying situation of the post-phaseout "phase-in" of methyl bromide. The Albemarle Corporation, a major producer of methyl bromide, has a plant in Magnolia, Arkansas, which has been listed as one of the worst polluters in the state due to its

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[166] *Id.*

[167] *Id.*

[168] *Id.*

[169] *Id.*

[170] *Id.*

[171] Reeves & Schafer, *supra* note 27, at 37.

[172] *Latino Communities at Risk, supra* note 105.

[173] *See Poison Makers: Albemarle Corporation Makes Methyl Bromide*, PAN NORTH AMERICA, Spring 2006, at 10 [hereinafter *Poison Makers*].

[174] *See* Exec. Order, *supra* note 8.

[175] *See Frequently Asked Questions, supra* note 52.

emissions of methyl bromide.[176] However, its website claims that "Albemarle produces bromine-based products—liquids, solids and gases—that help make the world safer, better and more comfortable."[177]

The Gottwald family heads the Albemarle Corporation, and members of the Gottwald family have been consistent donors to the Bush campaigns and to the Republican National Committee.[178] In the four federal election cycles that occurred between 1990 and 1996, Floyd D. Gottwald Jr. gave nearly $250,000 to mostly Republican presidential and congressional candidates, as well as to the Republican National Committee.[179] His brother, Bruce C. Gottwald, gave another $78,000 between 1990 and 1994.[180]

With large donations from prominent players in agribusiness, the Bush Administration has folded to pressure to prioritize economic success of agribusiness over guarding the health of those who bear the brunt of the burden caused by the ongoing use of methyl bromide.[181] This is a direct violation of the Executive Order on Environmental Justice, and methyl bromide use must be halted immediately.[182]

IV. ALTERNATIVES AND SOLUTIONS

Today, energy goes into defending CUEs rather than implementing alternatives to methyl bromide.[183] While no single methyl bromide alternative is a complete substitute, numerous alternatives that provide viable solutions do exist.[184]

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[176] *See Poison Makers, supra* note 173, at 10.

[177] *Bromine Industrial Chemicals*, Albemarle Corporation, http://www.albemarle.com/Products_and_services/Fine_chemicals/Bromine_chemicals/Bromine_&_derivatives/Bromine_industrial_chemicals/ (last visited Oct. 25, 2006).

[178] *See Poison Makers, supra* note 173, at 10.

[179] *Albemarle Corporation*, CorpWatch: Holding Corporations Accountable, http://www.corpwatch.org/article.php?id=901 (last visited Oct. 25, 2006).

[180] *Id.*

[181] *See id.*; *Frequently Asked Questions, supra* note 52.

[182] *See* Exec. Order, *supra* note 8.

[183] McCook, *Banned Pesticide, supra* note 26, at 40.

[184] *See* Madonna J. Backstrom II, *Methyl Bromide: the Problem, the Phaseout, and the Alternatives*, 7 DRAKE J. AGRIC. L. 213 (2002) (providing a comprehensive overview of chemical alternatives and non-chemical alternatives to methyl bromide, and arguing that time is better spent perfecting alternatives to methyl bromide as opposed to attempting to extend the phaseout); *see also* The Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reductions, http://www.mbao.org (last visited Oct. 29, 2006) (providing information about current research on methyl bromide alternatives).

A. ALTERNATIVES TO METHYL BROMIDE

Section 612 of the CAA mandates that *safe* alternatives replace methyl bromide.[185] It requires that, to the maximum extent practicable, Class I and Class II substances be replaced by chemicals, product substitutes, or alternative manufacturing processes that *reduce* overall risks to human health and the environment.[186] While section 612 explicitly states that human health and the environment are the main considerations in developing alternatives to methyl bromide, development of certain alternatives violates this mandate.[187]

i. Alternatives that Satisfy Clean Air Act Section 612

One alternative proven safe for humans and the environment is a chemical consisting of natural ingredients from pepper and mustard.[188] After testing various combinations of plant-based products, Louis Champon discovered what he later named Dazitol; soon thereafter he formed a company, now called Champon Millennium Chemicals (CMC), with the goal of making a profit with an alternative to methyl bromide.[189] CMC's website explains that it manufactures pesticides that are extremely effective against pathogens in soil and as a foliar spray, yet are not harmful to people or animals and are environmentally friendly.[190]

Though preliminary government research into Dazitol produced promising results, the United States Department of Agriculture decided not to fund large-scale studies.[191] The CMC general manager and spokesperson has claimed that the government's decision stemmed from political opposition to finding a replacement for methyl bromide.[192] CMC has received private funding, but without government-funded testing to back up its claims of efficacy, its goal of being a viable alternative to

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[185] CAA § 612(a), 42 U.S.C.A. § 7671k(a) (Westlaw 2007).

[186] *Id.*

[187] *See Fumigant Pesticides: Why EPA Should Not Register Methyl Iodide,* 15 GLOBAL PESTICIDE CAMPAIGNER, No. 2, at 6 (Aug. 2005), http://www.panna.org/resources/gpc/gpc_200508.15.2.pdf [hereinafter *Methyl Iodide*]; *Transcript of the Public Hearing on the Proposed 2007 Methyl Bromide Critical Use Exemption Rule,* Environmental Protection Agency, http://www.epa.gov/ozone/mbr/0721crit.html (last visited Aug. 13, 2006).

[188] *See* McCook, *Unseating Methyl Bromide, supra* note 57.

[189] *Id.*

[190] *Champon Millennium Chemicals, Inc.*, http://www.champon.com (last visited Oct. 29, 2006).

[191] McCook, *Unseating Methyl Bromide, supra* note 57.

[192] *See id.;* McCook, *Banned Pesticide, supra* note 26 (suggesting that the agricultural industry's connections to the Bush administration drive the ongoing use of methyl bromide).

methyl bromide poses a large challenge.[193]

After a series of failed patent negotiations with the United States government, CMC ventured into other markets.[194] Dazitol enjoyed favorable growers' reports from the Middle East, and CMC eventually renewed its efforts in the United States market.[195] While pesticide researchers made conflicting predictions about whether Dazitol could be a viable alternative to methyl bromide, they agreed that favorable growers' reports from the Middle East are not enough, and more data is needed before anyone can determine conclusively that Dazitol is an effective alternative to methyl bromide.[196] Research funding from the United States government would further aid in determining whether Dazitol is a sound alternative.

Elimination of toxic pesticides is the safest alternative to methyl bromide, because that would not harm workers or deplete the ozone layer.[197] Martinez Farms, where ten siblings run an organic farm located midway between Santa Cruz and Monterey, California, provides an example of organic farming and sustainable living.[198] One of the siblings, Esteban Martinez, explains, "We farm organically because . . . when our father began working in conventional agriculture, he became ill because of the chemicals they were using and he decided . . . no more!"[199] Martinez explains that it is practical, profitable, and healthy to grow crops without fumigants and other dangerous pesticides:

> Our yield varies each year, depending on the variety of strawberries and the weather – from approximately 4,000 to 5,000 cases, maximum of 6,000, for organic strawberries. Conventional methods would produce up to 8,000 cases. There is not much difference though [in our profits] if you consider our savings by not paying for toxic chemicals.[200]

And, to explain the disadvantages of using chemicals, Martinez shares

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[193] McCook, *Unseating Methyl Bromide, supra* note 57.

[194] *See id.* (detailing the conflicting stories of Champon and the U.S. Department of Agriculture regarding patent negotiations between the parties).

[195] McCook, *Unseating Methyl Bromide, supra* note 57.

[196] *Id.*

[197] *See Honoring Courage: The Martinez "Organic Ten" – Practical Visionaries*, PAN NORTH AMERICA, http://www.panna.org/magazine/summer2006/honoringCourage.html [hereinafter *Honoring Courage*].

[198] *Id.*

[199] *Id.*

[200] *Honoring Courage, supra* note 197, at 28.

his observations of the devastating health effects[201] of pesticide use:

> I have personally seen . . . especially in our Latino communities that come to work [in] this country . . . . I have seen children with birth defects that I am sure are due to the chemicals . . . their parents have been working in the field. I have seen how they spray, and the types of chemicals used.[202]

The University of California at Davis studied two strawberry farms in the same growing region in California, a conventional farm using fumigants in 2004 and an organic farm using alternate methods for the same purpose in 2003.[203] Organic strawberry farming produced higher yields per acre but required more labor for hand weeding and disease control; therefore, the organic farm's cost per acre was higher.[204] In the end, both methods were profitable and the profit difference (5.4%) between the two methods is far outweighed by the significant environmental and public health costs of releasing fumigants into the air.[205]

ii. Alternatives that Violate Clean Air Act Section 612

Many chemicals have been researched, developed, and proposed as suitable alternatives to methyl bromide.[206] Many of these alternatives promote the protection of the ozone layer, but not necessarily the

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[201] *See generally* Center for the Health Assessment of Mothers and Children of Salinas (CHAMACOS), http://ehs.sph.berkeley.edu/chamacos/index.html (last visited Nov. 27, 2006) (containing data from numerous studies that investigate the environment and children's health in the Salinas Valley, Monterey County, California. Current studies focus on pesticide and allergen exposures to pregnant women and children, and generate information needed by the EPA to implement new mandates regulating pesticides).

[202] *Honoring Courage, supra* note 197, at 28.

[203] *Fumigant Pesticides: Strawberry and Tomato Farming without Fumigants and Other Toxic Pesticides*, 15 GLOBAL PESTICIDE CAMPAIGNER, No. 2, at 9 (Aug. 2005), http://www.panna.org/resources/gpc/gpc_200508.15.2.pdf [hereinafter *Strawberry and Tomato Farming*]; *see* M. Bolda, L. Torte, K. Klonsky, J.E. Bervejillo, *Sample Costs to Produce Organic Strawberries*, University of California Cooperative Extension 2003, http://coststudies.ucdavis.edu/outreach/cost_return_articles/strawborgcc03.pdf.

[204] *Strawberry and Tomato Farming, supra* note 203, at 9.

[205] *Id.*

[206] *See* annual proceedings from the Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reductions, http://www.mbao.org (follow hyperlink to "Proceedings From the 2006 Conference") (last visited July 23, 2007) (providing presenters' information on methyl bromide alternatives). *But see Fumigants Must Go!*, PAN NORTH AMERICA, http://www.panna.org/magazine/spring2006/actionFumigants.html (listing several of the same fumigants and illustrating their negative short-term and long-term health effects) (last visited July 23, 2007).

protection of human health.

One example is methyl iodide, a fumigant chemically related to methyl bromide but much less stable, reacting with air and water before it can be transported to the stratospheric ozone layer.[207] While methyl iodide is not an ozone-depleting chemical, its usage as an alternative to methyl bromide violates the statutory mandate that alternatives reduce overall risks to human health and the environment.[208] Methyl iodide contaminates air and water, is chemically reactive, is acutely toxic, and is carcinogenic.[209] Because methyl iodide may be even more hazardous to human health than methyl bromide, it clearly does not reduce the overall risk to human health and the environment that is required by Section 612 of the CAA.[210]

Another proposed alternative to methyl bromide is a scrubbing method that destroys methyl bromide post-fumigation for the purpose of allowing its continued use.[211] This scrubbing method was developed by Peter Joyce, President of Value Recovery, Inc.[212] On July 21, 2006, Mr. Joyce entered a comment at the EPA's Public Hearing on the Proposed 2007 Methyl Bromide Critical Use Exemption Rule, in which he stated that Value Recovery invented and developed technology for removing and simultaneously destroying methyl bromide from ventilation streams and fumigations of soil.[213] Mr. Joyce then articulated the manner in which his company's technology would fit into the CUE system and the policy behind the CAA and the Montreal Protocol:

> [I]f one can prove that a pound of methyl bromide used in a fumigation did not enter the atmosphere, then this pound would not count against the CUE. In simple terms, doesn't this make sense? After all, if protection of the ozone layer is the ultimate objective of the Clean Air Act and the Montreal Protocol, and it is proven that, in spite of the use of methyl bromide, the ozone layer was, indeed, protected from it, then why should it be rationed?[214]

In his 2006 public comment, Mr. Joyce failed to mention the health risks

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[207] *Methyl Iodide, supra* note 187.

[208] *See* CAA § 612(a), 42 U.S.C.A. § 7671k(a) (Westlaw 2007).

[209] *See Methyl Iodide, supra* note 187.

[210] *See* CAA § 612(a), 42 U.S.C.A. § 7671k(a) (Westlaw 2007).

[211] *See Transcript of the Public Hearing on the Proposed 2007 Methyl Bromide Critical Use Exemption Rule*, Environmental Protection Agency, http://www.epa.gov/ozone/mbr/0721crit.html (last visited Aug. 13, 2006) [hereinafter *Transcript*].

[212] *Id.*

[213] *Id.*

[214] *Transcript, supra* note 211.

that would result from ongoing use of methyl bromide.[215] The proposed scrubbing technology is used *after* methyl bromide is applied to the fields.[216] Thus, farm workers would still handle methyl bromide during its application process, continuing to be exposed to the toxin. Despite the risk it imposes on human health, Value Recovery's scrubbing technology has received over $800,000 in research grants from the United States Department of Energy.[217]

These Department of Energy grants fund a technology that prioritizes protection of the ozone layer over protection of human health; the scrubbing method will continue to place low-income and minority populations at risk of exposure to methyl bromide, a clear violation of the Executive Order on Environmental Justice.[218]

Another chemical alternative is metam-sodium, a pesticide that has partially replaced methyl bromide for fumigation of fruits, vegetables and orchard crops.[219] On November 13, 1999, vapors of metam-sodium from a potato field under fumigation drifted into Earlimart, California, causing nausea, headache, breathing difficulty, and burning eyes and throat.[220] One hundred and fifty residents were evacuated, twenty-four were hospitalized, and countless others fled in their own vehicles.[221] Due to the persistent efforts of Earlimart community members and the UFW, the pesticide application company, Wilbur Ellis, agreed to pay a $75,000 fine and was ordered to place another $75,000 into two trust funds to pay victims' medical bills.[222] The Earlimart poisoning suggests that metam-sodium is hazardous to human health. Because metam-sodium does not provide an alternative to methyl bromide that reduces the overall risk to human health and the environment, it violates the requirements of Section 612 of the CAA.[223]

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[215] *See id.*

[216] *Id.*

[217] *See* Grant No. DE-FG02-99ER82864 awarding $723,700 to Value Recovery, *Economic and Self-Sustaining Production of Saleable Products from Waste Anions Using Phase-Transfer Catalysis*, U.S. Department of Energy Small Business Innovation Research Program, Fiscal Year 2000; *see also* Grant No. DE-FG02-99ER82864 awarding $89,930 to PTC Organics Inc., *Economic and Self-Sustaining Production of Saleable Products from Waste Anions Using Phase-Transfer Catalysis*, U.S. Department of Energy Small Business Innovation Research Program, Fiscal Year 2000.

[218] *See* Exec. Order, *supra* note 8; *Transcript, supra* note 211.

[219] *UFW: Earlimart Poisoning Shows Need for Greater Scrutiny of Toxic Pesticides*, United Farm Workers, http://www.ufw.org (follow "News & Events" hyperlink; then follow "Press Releases" hyperlink; then follow "11/13/1999" hyperlink) (last visited Oct. 24, 2006).

[220] REEVES ET AL., *supra*, note 88, at 11.

[221] *Id.*

[222] *Id* at 12.

[223] *See* CAA § 612(a), 42 U.S.C.A. § 7671k(a) (Westlaw 2007).

Whether or not a substitute for methyl bromide is found in a single alternative or in a combination of alternatives, the reduction of the overall risks to human health and the environment must be the hallmark of a viable alternative. Alternatives that continue to place workers and communities at risk of toxic exposure cannot be considered sound alternatives to methyl bromide.

B. SOLUTIONS

The immediate elimination of methyl bromide is the only guaranteed means of protecting the ozone layer and human health, but other solutions play an important role in combating the ongoing use of methyl bromide.

i. Immediate Elimination of Methyl Bromide

The central assertion of the environmental justice movement is that people of color and the poor are disproportionately exposed to environmental harms in the places where they live and work;[224] this is certainly true of farm workers who are forced to continue working with methyl bromide due to the CUE program under the Montreal Protocol. As a result, an immediate and complete elimination of the use of methyl bromide, including the methyl bromide used under the CUE program, is the only definite means of protecting the ozone layer and ensuring a safe and healthy environment.

ii. Commitment to Alternatives

Short of an immediate halt to the use of methyl bromide, federal and state agencies must actively promote and encourage the use of safe and sustainable alternatives to methyl bromide. Californians for Pesticide Reform advocate for financial support of research, education, and outreach to farmers; in addition, the group recommends providing transition assistance and incentives to growers to facilitate a conversion to safer alternatives, particularly for fumigants like methyl bromide.[225] The complete phaseout of methyl bromide will succeed only if there are sound alternatives to be employed in the agriculture industry; assistance and incentives provided by state and federal agencies encourage the development of alternatives, whereas the CUE system enables growers to

[224] *See generally* RECHTSCHAFFEN & GAUNA, *supra* note 8; COLE & FOSTER, *supra* note 73.

[225] *See* REEVES ET AL., *supra* note 88, at 25.

continue to use methyl bromide and, as a result, undermines the search for alternatives.

iii. Legal Remedies

Legal remedies are often an appropriate solution in situations of injustice. However, two recent decisions suggest a dubious future for lawsuits against the EPA regarding methyl bromide usage.[226] In *Natural Resources Defense Council v. Leavitt,* the Natural Resources Defense Council (NRDC) brought an action against the Administrator of the EPA for violating the Freedom of Information Act (FOIA) by failing to respond sufficiently to a request for documents concerning stockpiles of methyl bromide.[227] NRDC, a group at the forefront of the campaign to reduce the production and use of methyl bromide, argued that because future emissions of methyl bromide are directly related to the size of current methyl bromide stockpiles, the EPA must release company-specific information, aggregate stockpile data, and domestic stockpile estimates.[228] The EPA argued that the five methyl bromide manufacturers whose stockpile information was sought in this case were not directly responsible for any emissions; instead, the EPA argued, it was the *purchasers* of methyl bromide that create any eventual emissions.[229] The United States District Court for the District of Columbia found the EPA's interpretation of the regulations to be more reasonable; it held that a plain reading of 40 C.F.R. § 2.301(a)(2)(i) indicates that "emissions data" is defined narrowly to focus on information obtained from a *source* of emissions, not a producer of materials that will later contribute to emissions.[230] The court ruled that both company-specific and aggregate stockpile data may be withheld from disclosure but ordered an in-camera review of documents relating to group estimates.[231]

In another suit, *Natural Resources Defense Council v. Johnson,* NRDC filed a petition for review of the final rule issued by the EPA, under the Montreal Protocol, governing the critical use of methyl bromide.[232] NRDC argued that the final rule – which authorized new

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[226] *Natural Res. Def. Council v. Leavitt*, No. Civ.A. 04-01295 HHK, 2006 WL 667327 (D.D.C. Mar. 14, 2006); *Natural Res. Def. Council v. Johnson*, 440 F.3d 476 (D.C. Cir. 2006).

[227] *Natural Res. Def. Council v. Leavitt*, No. Civ.A. 04-01295 HHK, 2006 WL 667327, at *1 (D.D.C. Mar. 14, 2006).

[228] *Id.* at *3.

[229] *Id.* at *3.

[230] *Id.* at *4.

[231] *Id.* at *6.

[232] *Natural Res. Def. Council v. Johnson*, 440 F.3d 476, 477 (D.C. Cir. 2006).

production and consumption of methyl bromide, use of stocks, and permitted non-critical users to draw upon existing stocks – violated the Montreal Protocol treaty and the CAA.[233] The United States Court of Appeals for the District of Columbia Circuit held that NRDC lacked standing, and the court dismissed NRDC's petition for review.[234] The court reasoned that the probability of harm to NRDC's members from the EPA's rule was not of the required magnitude to confer standing.[235]

iv. Community Organizing

While the above cases have not provided a sufficient remedy to those fighting against the use of methyl bromide, legal remedies must still be sought. Community organizations, nonprofits, grassroots advocacy groups, and workers must continue to organize and advocate against the use of methyl bromide in order to see any results.

The focus of the environmental justice movement is to empower people of color and the poor who are disproportionately exposed to environmental and health harms in the places where they live and work.[236] Groups like the Center on Race, Poverty and the Environment (CRPE) take on a broad range of challenges in their dedication to fighting environmental injustices:

The [Central Valley Air Quality] Project uses grassroots-based advocacy and strategic litigation to attack the greatest threats to air quality and environmental health: unregulated pesticide emissions, expansion of the Valley's massive dairy industry, and captured regulatory agencies that do the polluters' bidding. The Project's current docket includes suits against the Department of Pesticide Regulation under state and federal Clean Air Acts to force California to reduce pesticide use, against scofflaw dairy operators ignoring their obligation to control air pollution, and against the EPA for giving animal factories a free pass from federal enforcement of air quality laws.[237]

It is imperative that nonprofit organizations like CPRE receive funding and volunteer time so that they can work together with those communities that continue to bear a disproportionate share of the burden that results from government programs such as the CUE system.

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[233] *See id.* at 480.

[234] *Id.* at 484.

[235] *Id* at 483.

[236] *See* Shannon Adair Tool, *Farm Workers and FIFRA: Laboring Under the Cloud*, 31 SW. U. L. REV. 93, 98 (2001).

[237] *CPRE's Campaigns,* Center on Race Poverty & the Environment, http://www.crpe-ej.org/campaigns/cleanair/index.html (last visited Oct. 30, 2006).

One example of the efficacy of grassroots organizing was the formation of the Monterey County Pesticide Coalition in the late 1970s. After an incident in which nineteen workers suffered from convulsions, twitching eyes, and/or nausea after they were taken into a cauliflower field sprayed with acutely toxic pesticides the night before, community members joined members of California Rural Legal Assistance (CRLA) and the UFW to demand that the county adopt field-posting laws.[238] Soon after the formation of the coalition, the agricultural commissioner came on board, and the coalition won an emergency field-posting ordinance[239] in October of 1981.[240]

More recently, groups such as the UFW, the Pesticide Action Network North America (PANNA), Center for the Health Analysis of Mothers and Children of Salinas (CHAMACOS), California Rural Legal Assistance (CRLA), Center on Race, Poverty & the Environment (CRPE), and People Organizing to Demand Environmental and Economic Rights (¡PODER!) have led the environmental justice movement to advocate on behalf of farm workers and to eradicate the use of toxic pesticides.[241]

The UFW, arguably the most visible group in the labor rights and environmental justice movements, remains at the forefront of environmental justice activism today. Recent campaigns include organizing to pressure the EPA Administrator against approving the use of new toxic pesticides and organizing to encourage state departments of labor to implement pesticide-monitoring programs to identify the number of farm workers being overexposed to pesticides.[242]

IV. CONCLUSION

The discovery of the health risks and ozone depletion caused by methyl bromide originally brought nations together with the goal of phasing out the use of toxic pesticides.[243] Almost two decades after the

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[238] *See* Stahl, *supra* note 70.

[239] The emergency field-posting ordinance required the posting of signs (in Spanish and English) warning that the field had recently been sprayed with toxic pesticides. These signs typically have a skull-and-crossbones image and are posted on all corners of a field.

[240] Stahl, *supra* note 70.

[241] *See* United Farm Workers, www.ufw.org; Pesticide Action Network North America, www.panna.org; California Rural Legal Assistance, www.crla.org; Center on Race, Poverty, and the Environment, www.crpe-ej.org; and People Organizing to Demand Environmental and Economic Rights, www.podersf.org.

[242] *See generally Press Releases,* United Farm Workers, http://www.ufw.org (follow hyperlink "News & Events"; then follow hyperlink "Press Releases") (last visited July 15, 2007).

[243] *See* Montreal Protocol, *supra* note 3.

initial meeting of the Parties to the Montreal Protocol, the United States continues to use more methyl bromide than all the other Parties combined.[244]

The ongoing use of methyl bromide, resulting from the system of CUEs, disproportionately affects low-income and minority communities—mostly farm workers—who are forced to continue working with the pesticide, and who live in predominantly agricultural areas.[245] The continued use of methyl bromide constitutes a clear violation of President Clinton's Executive Order on Environmental Justice, and therefore an immediate solution is required. The only way to protect farm workers from injustice is to ban the use of methyl bromide immediately and to ensure that any alternatives used in place of methyl bromide reduce overall risks to human health and the environment.

While a thriving agriculture industry is essential to the economy of the United States, a functioning ozone layer and a minimal level of human health are essential for the survival of people all over the world. To this end, the United States and the Parties to the Montreal Protocol must remember the intentions of the treaty and immediately halt the use of methyl bromide.

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[244] *See* McCook, *Banned Pesticide*, *supra* note 26, at 40 (showing a chart of the CUEs granted by the Montreal Protocol in 2005).

[245] *See* REEVES ET AL., *supra* note 88; *Loophole*, *supra* note 3, at 8.

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