

# Going to Extremes

The U.S.-Funded Aerial Eradication Program in Colombia

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**The Latin America Working Group Education Fund** conducts public education to encourage U.S. policies that promote human rights, justice and peace in Latin America. The LAWGEF serves a coalition of nongovernmental, religious, humanitarian, and grassroots organizations.

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By *Betsy Marsh*

## Introduction

José and Fabiola Alarcón<sup>a</sup> have owned their 124-acre farm in the Putumayo province of Colombia since the 1970s, when they were among the first non-indigenous arrivals to settle in the area now known as La Hormiga. They keep most of the farm in forest, with medicinal plants mixed in, to protect its tremendous biodiversity. Though neither can read, José and Fabiola have been community leaders for many years and they enthusiastically supported alternative development programs to help farmers switch from production of coca, the raw material for cocaine, to legal food crops. They planted heart-of-palm in their fields, and convinced neighbors to swap coca for food crops. They stopped growing coca in 1994. Yet on December 8, 2002, José and Fabiola looked up from planting corn to see three spray-planes fly overhead, dousing their fields with herbicide. They didn't realize how many crops had been hit until a few days later, when everything—corn, heart-of-palm, herbs, yucca—began to yellow and wilt. Their pasture was all destroyed, leaving the livestock to go hungry. Six months later, after they had replanted most everything, the planes returned to spray a neighbor's field. The wind shifted and the chemicals drifted onto their farm, killing more pasture and medicinal plants.<sup>1</sup>

Since July 2000, the United States has given over 2 billion dollars of aid to Colombia for a massive anti-drug program to eradicate coca and opium poppy, the raw materials for cocaine and heroin, respectively.<sup>2</sup> According to the U.S. State Department, the ultimate goal of this program is to reduce consumption

and abuse of these drugs in the United States. While a laudable goal, the principal method used is extreme and controversial. The program uses crop-dusting and modified military planes to spray a potent herbicide over large swaths of the Colombian countryside where illicit crops are grown. The herbicide is sprayed from high altitudes on drug crops that are located in close proximity to human settlements, food crops, livestock, pasture, water sources, and forests. The spraying destroys a critical source of income for more than a hundred thousand poor Colombian farming families who rely on coca and opium poppy production to meet their basic needs. For a majority of those families, no long-term alternatives or short-term food aid is provided.

From 2000-02, despite the enormous allocation of resources and considerable human costs of this drug control policy, coca production in the Andean region stayed virtually the same, according to State Department figures. While complete 2003 estimates are not yet available, the escalated aerial spraying program combined with alternative development programs is making a considerable impact on cultivation in the Putumayo province. However, coca production is spreading to other areas of

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<sup>a</sup> Names have been changed for security reasons.

## Executive Summary

### Going to Extremes: The U.S.-Funded Aerial Eradication Program in Colombia

Since July 2000, the United States has provided over 2 billion dollars of aid to Colombia for a massive anti-drug program to eradicate coca and opium poppy, the raw materials for cocaine and heroin, respectively. According to the U.S. State Department, the ultimate goal of this program is to reduce consumption and abuse of these drugs in the United States. While a laudable goal, the principal method used is extreme and controversial.

The program uses crop-dusting and modified military planes to spray a potent herbicide mixture over large swaths of the Colombian countryside where illicit crops are grown. The herbicide used in the spray mixture is glyphosate, a non-selective herbicide that kills or stunts the growth of virtually all plants and trees if a sufficient dose is applied. The herbicide is sprayed from high altitudes on drug crops that are located near human settlements, food crops, livestock, pasture, water sources, and forests. The spraying destroys a critical source of income for more than a hundred thousand poor Colombian farming families who rely on coca and poppy production to meet their basic needs.

From December 2000 to December 2002, Colombian drug authorities and U.S. contractors sprayed herbicide on 254,586 hectares of coca and 15,208 hectares of poppy. Although the U.S. government reported a 15% decline in net coca cultivation in Colombia in 2002, multiple indicators suggest that the program will have little, if any, sustained impact on global coca production or U.S. drug consumption. State Department and United Nations figures show that coca production is shifting throughout the region and within Colombia. Numerous studies also show that forced eradication programs stimulate farmers to move elsewhere and replant, induce growers to plant larger areas of illicit crops in anticipation of eradication, and cause illegal drug production to shift abroad in the classic balloon effect. Trends in coca production in the Andes region also demonstrate that despite various coca supply reduction programs implemented in the last fifteen years, coca production has never ceased to meet the demand. The U.S. government's authoritative study on drug abuse in 25 cities shows the availability of powder and crack cocaine remains stable.

**Damage to food crops.** Numerous official and unofficial reports indicate that the aerial spraying caused significant damage to food crops, pasture, livestock, and agricultural development projects from 2000-2003. In many cases, the damages appeared to occur in areas where no coca crops were present or in areas owned by farmers who had signed eradication pacts and were in the process of eradicating coca and implementing alternative development projects. The State Department denies that the spraying has caused extensive collateral damage, but many factors, including verification of damages by Colombian inter-governmental commissions and modeling by the U.S. Environmental Protection Agency (EPA) indicating substantial spray drift, suggest that many complaints are indeed legitimate.

**Lack of compensation.** The vast majority of farming families who lose food and cash crops as a result of the spraying are not offered short-term food aid or compensation for their losses. Of the thousands of claims of damage to legal crops filed since the start of Plan Colombia, the State Department reports that only five cases have been ruled valid and a total of \$18,500 had been paid for damages. This outcome does not seem credible given the substantial anecdotal reports available about damage to food crops and alternative development projects and the thorough reports prepared by the Colombian Government Ombudsman's Office.

**Health impact.** Rural residents in sprayed areas report that people have been sprayed directly with the herbicide mixture and have suffered a variety of health ailments following the spraying, including eye irritation, skin rashes, and respiratory and digestive ailments. Although the State Department asserts that the spray program is completely safe for human health, the EPA has recognized that some of the more consistent claims of health problems are credible. Appropriate public health studies to determine the impact of the spraying on peoples' health have not yet been conducted, thus the U.S. and Colombian authorities are essentially conducting an experiment on Colombian citizens. No special procedure exists for residents to register claims of health harm, and mechanisms to evaluate and compensate health complaints are inadequate.

**Displacement of people caused by aerial spraying.** Reports from Colombian authorities and nongovernmental organizations indicate that aerial eradication under Plan Colombia has led to significant displacement of rural communities. According to figures from the Colombian human rights organization CODHES, there is a direct relationship between the number of persons displaced and the number of hectares sprayed in an area. Abandoning their homes, property and livelihood, displaced families are typically forced to live in extreme poverty. The situation in Colombia is made worse by the fact that families displaced by fumigation are not eligible for emergency food aid and other benefits from the Social Solidarity Network that are available for those displaced by political violence.

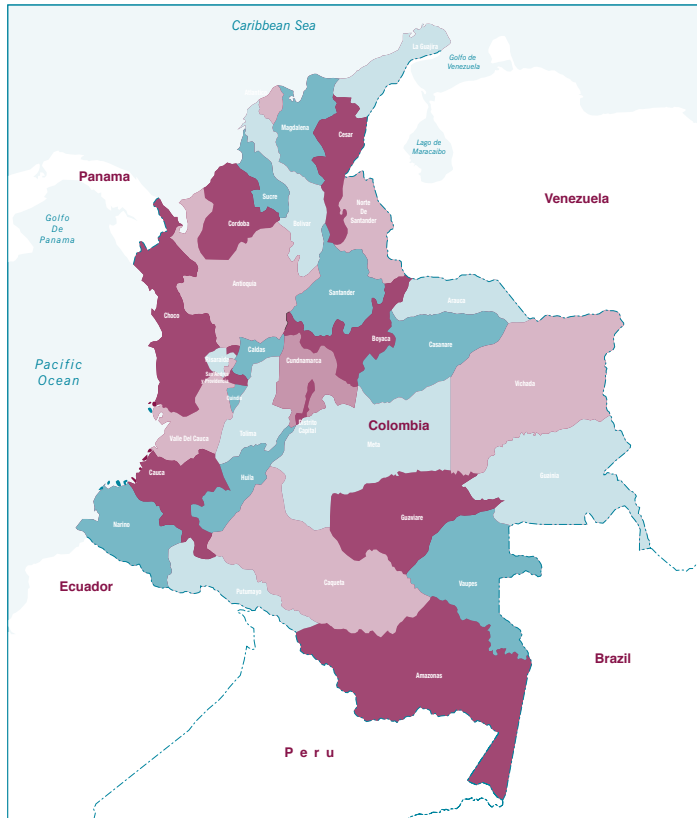
**Environmental impact.** Scientists warn that the aerial eradication program may cause significant environmental damage to Colombian ecosystems. Colombia is extraordinarily rich in biodiversity with the second highest number of species in the world. While coca cultivation and processing causes extensive deforestation and pollution, aerial eradication exacerbates the problem by encouraging a shift in production to new areas, including remote forests in the Amazon. The EPA estimates that spray drift could cause substantial damage to non-target vegetation, destroying habitat and likely causing adverse impacts to wildlife. Neither U.S. nor Colombian authorities have conducted an appropriate environmental impact assessment that considers Colombian ecosystems and species as well as cumulative environmental impacts. Nevertheless, the Colombian government, in collaboration with the U.S. Embassy, recently removed and weakened many environmental safeguards in the Environmental Management Plan for the spray program. Spraying is now allowed in Colombian National Parks, among other areas.

**Inadequate alternatives.** To achieve sustainable reductions in illicit crop cultivation, farmers must have viable economic alternatives to coca and poppy production. Despite this fact, the U.S. and Colombian governments have dedicated insufficient resources and attention to alternative development programs implemented under Plan Colombia. Initial alternative development programs for farmers affected by the fumigation were poorly designed and coordinated. Although alternative development programs have improved, they do not cover more than a subset of the small farmers whose crops are targeted for aerial fumigation. In 2001-2002, 220,000 hectares were sprayed. In contrast, by February 2004, USAID had supported a total of 38,563 hectares of legal crops. Much doubt exists regarding the scope and sustainability of these efforts.

**Widespread opposition.** Large-scale aerial application of herbicides is an extremely rare and radical approach to drug crop control. According to the State Department, "Colombia is at this time the only country that allows aerial spraying of coca and opium poppy." Opposition to the current aerial eradication program extends to diverse sectors of Colombian society, other governments, international organizations, and civil society groups around the globe. Reports from Colombian government agencies and rulings by Colombian courts indicate that the aerial eradication program is being conducted in direct violation of numerous Colombian laws. Various non-governmental organizations have also presented legal complaints before U.S. and international legal bodies, alleging violations of U.S. and international law.

**Conclusion.** Faced with an ineffective, inhumane, and environmentally unsafe drug control strategy, U.S. policymakers should suspend the aerial eradication program in Colombia and redirect resources towards approaches that protect human rights and environment while achieving lasting reductions in drug production and abuse. Strategies that should be pursued include: expanding and improving drug treatment and education programs in the United States; promoting greater market opportunities and access to credit for farmers involved in drug production but committed to switching to legal crops; and promoting greater dialogue among policymakers at the national and international level on the results of drug policy.

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Colombia and gradually increasing in Bolivia. The latest U.S.-government funded study of adolescent drug use shows no statistically significant changes in cocaine consumption in the United States, while the U.S. government's January 2004 study on trends in drug abuse reports that the availability of crack and powder cocaine remains stable.<sup>3</sup>

The following analysis examines many of the most controversial aspects of the fumigation program.<sup>b</sup> It describes how safeguards Congress put in place to minimize negative social and environmental effects of the program have scarcely been monitored and have not been effectively implemented. The analysis provides evidence that the Colombian aerial eradication program is not only ineffective but also environmentally unsafe and stunningly inhumane.

## I. Overview of the Aerial Eradication Program

In July 2000, the U.S. Congress approved a \$1.3 billion dollar aid package for Colombia

and neighboring countries that represented the first installment of a massive increase in aid for counternarcotics operations. Sixty-six percent of this aid package was allotted to Colombia for the military, counternarcotics, and development strategy known as "Plan Colombia." Over 75% of this aid to Colombia was military and police assistance, primarily directed towards funding the operations of three U.S.-created Colombian Army counternarcotics battalions. The battalions were established to secure safe conditions for the Colombian National Police to conduct anti-drug activities in the guerrilla-dominated southern provinces of Putumayo and Caquetá, particularly massive aerial eradication operations. Of the remaining U.S. aid to Colombia, \$68.5 million was allocated for new alternative development and crop substitution programs. This included ten million for those forcibly displaced from the "push into southern Colombia," although this mitigating aid was never implemented to directly benefit those displaced by fumigation.<sup>c</sup> Since 2000, the total amount of U.S. aid to Colombia has climbed to over \$3 billion. Of this amount, \$2.5 billion (80%)<sup>4</sup> has been allotted for military and police assistance to sustain and expand the counternarcotics programs and recently, to strengthen Colombian counterinsurgency operations.<sup>5</sup>

From December 2000 to December 2002, the Colombian Antinarcotics police (DIRAN), with the support of U.S. contractors, sprayed herbicide on 254,586 hectares (629,096 acres) of coca and 15,208 hectares (37,564 acres) of opium poppy in Colombia.<sup>6</sup> The spraying took place in multiple Colombian provinces (or departments), including Putumayo, Caquetá, Nariño, Antioquia, Guaviare, Huila, Tolima, and Norte de Santander.<sup>7</sup>

The majority of the spraying from 2000-2002 was concentrated in the southwestern department of Putumayo, where more than 40% of Colombian coca was cultivated in 2000.<sup>8</sup> Putumayo is located on Colombia's southern border with Ecuador and Peru and covers 9,604 square miles— roughly the

<sup>b</sup> Given that the U.S. aerial eradication program primarily targets coca production, the analysis focuses almost exclusively on eradication of coca rather than opium poppy. However, many of the points discussed are relevant to poppy eradication as well.

<sup>c</sup> See explanation of how government programs to serve internally displaced do not cover those displaced by fumigation on pages 29-30.

size of Vermont. The province lies between the Andes mountains to the west and the Amazon lowlands to the east. Approximately 60% of Putumayo is Amazon rainforest, and 36% is dedicated to agriculture.<sup>9</sup> The province contains thirteen municipalities, the most populated being Puerto Asis, Mocoa, Valle de Guamez, and Orito.<sup>10</sup> In 2000, the population of the province was estimated to be 323,549, the majority (67%) of which lives in rural areas. Twelve indigenous tribes make up roughly 8% of the population (23,500).<sup>11</sup> Among them, the Inga, Paez, and Kofan have been particularly affected by the fumigation.<sup>12</sup>

The spray program targets all coca fields, from industrial-size coca plantations to small plots of less than two hectares grown by peasant farmers, including many indigenous people.<sup>13</sup> According to the Colombian National Directorate of Narcotics (DNE), small-acreage farmers grow 62% of coca crops in Colombia on plots that are less than three hectares in size.<sup>14</sup> According to the State Department (DoS), the Colombian Government selects the areas to be sprayed and identifies the exact geographical coordinates where the illicit crops are grown. Pilots then use computer-programmed flight lines and visual confirmation to identify and spray coca fields. The spray pilots are Colombians, third-country nationals and U.S. citizens who receive program training by the INL Air Wing.<sup>15</sup> They fly three different types of fixed-wing aircraft at an average height of 100 feet above the ground, and at average speeds of 140 to 205 mph.<sup>d</sup> <sup>16</sup> According to the State Department, to minimize human exposure, pilots are instructed to avoid spraying near people, homes, and occupied buildings, as well as to avoid flights over towns and populated areas. To maximize effectiveness and avoid drift, spray missions are to be conducted only under certain weather parameters.<sup>17</sup>

The herbicide used in the spray mixture for coca eradication is glyphosate, a non-selective herbicide that kills or stunts the growth of virtually all plants and trees if a sufficient dose is applied.<sup>18</sup> Glyphosate is manufactured by the U.S. Monsanto Corporation. It is mixed with inert



*Piles of coca are neatly stacked beneath plantain trees.*

ingredients that include water and surfactants to produce herbicide formulated products that are sold under variations of the trade name Roundup. The actual spray mixture used in Colombia consists of a glyphosate formulation, water, and the surfactant, Cosmo-Flux 411F, which helps the product stick to coca leaves.<sup>19</sup>

Following a recommendation by the U.S. Environmental Protection Agency (EPA), as of October 2002 the State Department had reportedly switched the glyphosate formulation used in Colombia from Roundup Export, which can cause acute eye damage, to Roundup Ultra, a formulation less toxic to eyes.<sup>20</sup> However, as of June 2003, there was no official record from Colombia of this change.<sup>21</sup> While the active ingredient in both products is glyphosate, the blend of surfactants is distinct, posing different health and environmental risks.

### **Congressional Conditions**

In the FY2002, FY2003, and FY2004 foreign appropriations acts, in an attempt to safeguard human health, minimize social harms, and protect the environment, Congress included a set of conditions governing the aerial eradication program. Senators Leahy (D-VT) and Feingold (D-WI) championed these conditions. The specific conditions have varied

<sup>d</sup> According to the Bureau for International Narcotics and Law Enforcement Affairs (INL), pilots may fly as high as 175 feet above the ground where tree height is 150 feet. (International, U.S. State Department, "Follow up questions from Roundtables with NGOs," September 24 and October 1 2002).

### Fumigation Conditions in the FY2004 Foreign Operations Appropriations Bill

Provided further, That not more than 20 percent of the funds appropriated by this Act that are used for the procurement of chemicals for aerial coca and poppy fumigation programs may be made available for such programs unless the Secretary of State, after consultation with the Administrator of the Environmental Protection Agency (EPA), certifies to the Committees on Appropriations that: (1) the herbicide mixture is being used in accordance with EPA label requirements for comparable use in the United States and any additional controls recommended by the EPA for this program, and with the Colombian Environmental Management Plan for aerial fumigation; and (2) the herbicide mixture, in the manner it is being used, does not pose unreasonable risks or adverse effects to humans or the environment: Provided further, That such funds may not be made available unless the Secretary of State certifies to the Committees on Appropriations that complaints of harm to health or licit crops caused by such fumigation are evaluated and fair compensation is being paid for meritorious claims: Provided further, That such funds may not be made available for such purposes unless programs are being implemented by the United States Agency for International Development, the Government of Colombia, or other organizations, in consultation with local communities, to provide alternative sources of income in areas where security permits for small-acreage growers whose illicit crops are targeted for fumigation: Provided further, That of the funds appropriated under this heading, not less than \$2,500,000 should be made available for continued training, equipment, and other assistance for the Colombian National Park Service: Provided further, That funds appropriated by this Act may be used for aerial fumigation in Colombia's national parks or reserves if the Secretary of State determines that it is in accordance with Colombian laws and that there are no effective alternatives to reduce drug cultivation in these areas.

slightly each year, but have all required that prior to the disbursement of funds for the program, the Secretary of State report on the status of alternative development programs, explain procedures for investigating and awarding claims of compensation for damages caused by the fumigation, and consult with the EPA regarding compliance with regulatory controls for use of the herbicide in the United States and the health and environmental risks and effects of the fumigation. (See box with conditions for FY2004.) As discussed later, these conditions have been difficult to monitor and enforce and have had relatively limited practical impact in improving the program.

## II. Effectiveness of Aerial Eradication as a Drug Control Policy

The U.S. government has heralded the latest figures on coca production in Colombia as proof of the success of the aerial eradication

program.<sup>22</sup> In February 2003, the US Office of National Drug Control Policy (ONDCP) reported that net Colombian coca cultivation decreased from 169,800 to 144,450 hectares<sup>6</sup> in 2002, a 15% decline.<sup>23</sup> In July 2003, John Walters, ONDCP Director, reported that coca production in the key coca-growing department of Putumayo had declined by 96% since 2001.<sup>24</sup> A September 2003 report by the United Nations Drug Control Program indicated a 32% reduction in Colombian coca fields in the first seven months of 2003.<sup>25</sup>

However, the number of hectares of coca fields in Colombia measured in the short term is a poor indicator of the effectiveness of the fumigation program in achieving its goal of reducing cocaine and heroine use in the United States. As detailed below, to better assess the effectiveness of the fumigation program, we need to assess regional and international, not country, production levels; carefully evaluate

<sup>6</sup> One hectare equals 2.47 acres.

whether a drop in production is likely to be sustained or temporary; consider the role of alternative development in the decline in coca production in Putumayo; and focus less on program outputs and more on the ultimate desired outcome—decreased drug consumption in the United States.

First, pointing to hectares of coca in decline and automatically attributing this change to fumigation obscures the real gains achieved through voluntary eradication programs coupled with alternative development. In the Putumayo province, where the greatest reduction in coca occurred, nearly one-half of the drop in coca production was actually accomplished by manual eradication with alternative development, according to USAID figures. Of the reduction of coca in Putumayo in 2002, estimated at 33,600, farmers receiving US aid manually eradicated 14,879 hectares.<sup>26</sup> By April 2003, those numbers had risen to 16,673 coca hectares manually eradicated (with 24,549 hectares of legal crops planted in the department).<sup>27</sup> These farmers who invested their time and labor in manual eradication and alternative development are obviously less likely to move to other areas to continue cultivating coca.<sup>28</sup> Unfortunately, no other provinces received anywhere near the amount of investment in alternative development that Putumayo did during the 2001-2003 period.

Second, short-term reductions in Colombian coca production mean little if current indicators of regional production and historical trends suggest that long-term global supplies of cocaine will remain stable. State Department figures show that coca production is shifting throughout the region and within Colombia. In 2002, the State Department found that coca crops in Bolivia jumped 23% to 24,400 hectares and increased 8% in Peru to 36,600 hectares. As of November 2003, DoS figures show a decrease of coca hectares in Peru to 31,150, but an increase in Bolivia to 28,450 hectares.<sup>29</sup> In the 2002 International Narcotics Control Strategy Report, DoS reported that

the eradication program in Colombia had driven up the price of coca leaf and base in Peru, spurring coca production. DoS also stated that three cocaine-base labs as well as coca fields as large as eight hectares were discovered for the first time in the Venezuelan-Colombian border region. It also indicated concern about potential drug cultivation in Ecuador given the country's widespread poverty and shared borders with Colombia and Peru.<sup>30</sup> In March 2003, DoS reported that while net coca cultivation in the Putumayo region had dropped from 45,900 hectares in 1999 to 8,200 hectares in 2002, net coca cultivation in the Guaviare region had risen by 163% during the same period, from 29,800 to 78,500 hectares.<sup>31</sup> This is ironic, given that aerial spraying efforts in Guaviare in the mid- to late-1990s spurred the shift of coca production to Putumayo in the first place.<sup>32</sup> According to State Department satellite images, coca production in the northern province of Norte de Santander increased from 12,000 to 49,000 hectares in 2002 alone, with an estimated 90% being grown in the remote jungle region of Catatumbo.<sup>33</sup>

United Nations data also indicates a regional shift in coca production. According to the UN 2002 Coca Survey, Colombian coca cultivation in 2002 rose significantly in regions where there had previously been minimal spraying. In Nariño, a neighboring province to Putumayo, coca crops nearly doubled in one year, increasing by approximately 8,000 hectares.<sup>f</sup> The province of Guaviare, which is adjacent to heavily sprayed Caquetá, became the number one province for coca cultivation, with a 2000-hectare increase in coca to a total of 27,381 hectares. In seven Colombian provinces coca cultivation rose by an average of nearly 60% from 2000 to 2002.<sup>34</sup> The UN also detected possible small coca fields in remote forested areas outside traditional agricultural zones in five Colombian provinces, as well as traditional farming areas on the Atlantic coast, the coffee growing region, and the Andes.<sup>35</sup> Yet the true extent of the displacement of coca cultivation is not even known since neither State Department

<sup>f</sup> The former governor of Nariño, Parmenio Cuellar, noted that as coca production in Putumayo dropped, production in his neighboring department nearly quadrupled; he predicted it would return to Putumayo once the focus of anti-narcotics efforts shifted. "It is an absurd strategy." Interview by Lisa Haugaard, Director, Latin America Working Group, with Parmenio Cuellar, February 20<sup>th</sup>, 2004, Bogotá, Colombia.

## Threatening indigenous communities

As aerial spraying forces commercial coca cultivation to shift to new and remote areas of Colombia, indigenous peoples are finding their communities and lands under increasing threat. According to indigenous leaders from the Sibundoy Valley in Upper Putumayo, following the spraying in lower Putumayo, armed actors, coca farmers, and refugees began to invade the Inga and Kamsá lands in increasing numbers. [1] Largely as a result of displacement caused by the spraying, settlers and coca farmers have also penetrated the Nukak reservation in Guaviare and the U'wa reservation in Arauca. [2] The Nukaks, a people numbering only 400, have lost roughly 1500 hectares of their territory to coca fields. [3] In the long battle to protect their territory from oil exploitation, the U'wa are now concerned that this invasion will lead to spraying on their lands, and jeopardize efforts to protect their territory. [4] Throughout Colombia, the influx of settlers, drug traffickers and armed actors into indigenous reservations as a result of the spraying and armed conflict causes indigenous peoples to lose control over their territory, stresses their resource base, increases social conflicts and violence, and ultimately leads to the disintegration of indigenous culture, as the coca economy supplants the traditional economy and traditional leaders lose authority.

[1] Personal communication with Inga and Kamsá indigenous leaders, June 27, 2003.

[2] Ricardo Vargas, "The Anti-Drug Policy, Aerial Spraying Of Illicit Crops And Their Social, Environmental and Political Impacts In Colombia," *Journal of Drug Issues*, Vol. 32, Winter 2002. P. 11-60; Personal communication with Astrid Puentes, Legal Director, Interamerican Association for Environmental Defense.

[3] "Urge tomar medidas ante dramática situación de indígenas de la Amazonia," *El Tiempo*, Editorial, November 27, 2003.

[4] Based on conversations with the U'wa. Personal communication with Astrid Puentes, Legal Director, Interamerican Association for Environmental Defense.

nor UN estimates of coca cultivation accurately measure the number of coca fields planted outside primary coca producing areas.<sup>36</sup>

According to historical trends in coca production, this expansion of coca crops throughout Colombia and the Andean region will only increase with continued pressure on growers in specific areas of Colombia. Studies have repeatedly shown that forced eradication programs stimulate farmers to move elsewhere and replant, induce growers to plant larger areas of illicit crops in anticipation of eradication, and cause illegal drug production to shift abroad in the classic balloon effect.<sup>37</sup> Just as attempting to flatten an inflated balloon will cause the air to spread out in all directions, successful eradication in one area temporarily lowers the supply, thereby raising the price for the illicit crop and stimulating production elsewhere. For example, when Mexico suppressed marijuana production it blossomed in Colombia. When

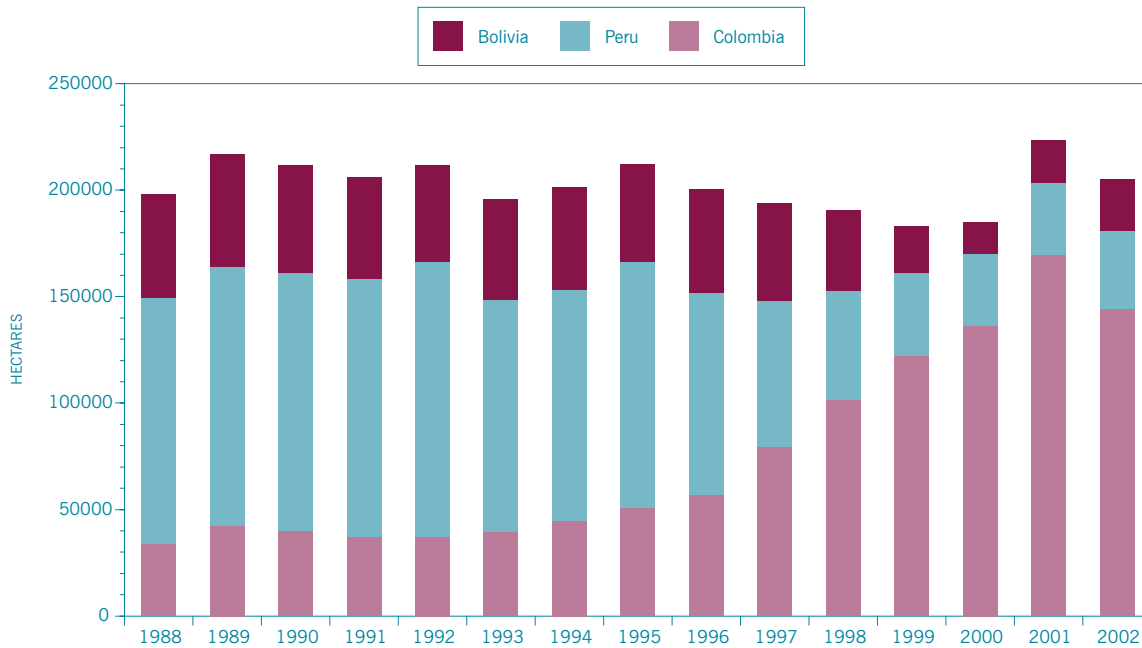
Turkey suppressed opium production, it sprang up in Mexico.<sup>38</sup> When Bolivia and Peru suppressed coca cultivation, production migrated north to Colombia.<sup>39</sup> Colombia sprayed 142,961 hectares from 1992 to 1998, and the area under coca cultivation more than doubled, increasing from 41,206 to 101,800 hectares.<sup>40</sup> Thus, as the UN Development Program asserts, the recent drop in Colombian coca cultivation should not be considered a sign of success, but rather the "fundamental lag time in the balloon effect while the crops are reestablished throughout the region."<sup>41</sup>

Although U.S. authorities indicate that the solution to preventing this regional coca expansion hinges on prompt and forceful action by neighboring countries,<sup>42</sup> such action is highly doubtful given the weak economies, low public approval ratings, internal political conflicts, and rising coca farmer movements in several Andean nations.<sup>8</sup> In a dramatic illustration of this point,

<sup>8</sup> In Peru, a government plan to begin forcible eradication in key coca-producing regions led to a series of protests by peasant coca farmers from August 2002 to March 2003. (Scott Wilson, "Coca Trade Booming Again in Peru," *Washington Post*, March 22, 2003.) "In response, the government of Peru signed agreements to halt coca eradication temporarily in certain regions, as well as to include cocacero representatives in the discussions of revisions to Peru's counternarcotics law." (Bureau for International Narcotics and Law Enforcement Affairs, U.S. Department of State, "Policy and Program Developments," *International Narcotics Control Strategy Report-2002*, March 2003.)



## Andean coca cultivation 1988-2002



SOURCE: State Department International Narcotics Control Strategy Reports

protests against forced coca eradication by the powerful Bolivian coca growers movement in 2003 significantly impeded President Gonzalo Sanchez's eradication plans in key areas and eventually contributed to his resignation.<sup>43</sup>

Trends in coca production in the Andes region also show that despite various coca supply

conservative Colombian lawmaker observed, "I'll give you the reason why the people continue to plant coca: they need to live."<sup>45</sup>

The income from illegal crop production far outpaces traditional crops and growers have almost guaranteed markets and access to credit and seeds from some traders. Compared with traditional food crops, lightweight

The recent drop in Colombian coca cultivation is not a sign of success, but "the fundamental lag time in the balloon effect while the crops are reestablished throughout the region." – *United Nations Development Program*

reduction programs implemented in the last fifteen years, coca production has never ceased to meet the demand. As illustrated above, coca cultivation in the Andes fluctuates yearly but has remained steady around 200,000 hectares since 1988, according to State Department figures.<sup>44</sup> Among the many reasons for this trend is the high incidence of poverty in rural South American countries that guarantees a never-ending supply of willing growers. As a

coca leaves are easy to transport and non-perishable. Moreover, coca is a resilient, pest-resistant, easily grown shrub that can thrive in a variety of altitudes, climates, and soils.<sup>46</sup>

Third, to truly assess the effectiveness of the aerial eradication program, it is imperative to examine the fumigation program's impact, or lack thereof, on the U.S. cocaine market. Reports so far indicate that coca eradication



efforts in Colombia have had no impact on the price, availability, or purity of cocaine in the United States. As of June 2003, the Drug Enforcement Administration testified to Congress that cocaine prices remain steady.<sup>47</sup> In January 2004, the Office of National Drug Control Policy reported that the availability of crack cocaine and powder cocaine remained relatively stable between December 2002 and May 2003, and that powder cocaine remains “relatively easy to purchase across the country.”<sup>48</sup>

The State Department has confidently predicted that cocaine prices will soon increase as the supply begins to dwindle. However, a 1993 RAND Corporation study estimates that even if eradication programs cut coca supply in half, street prices would rise for only 2-3 years before returning to baseline prices.<sup>49</sup> The economics of the coca trade – a kilogram of coca paste costs roughly \$1000 while the U.S. street price of cocaine averages \$100 + per gram – also guarantee that traffickers will make a huge profit even if they have to pay thousands more dollars per kilo of coca.<sup>50</sup>

Finally, the latest large-scale study of adolescent drug use, the 2003 Monitoring the Future survey, funded by the National Institute on Drug Abuse, found that while use of marijuana and ecstasy by U.S. secondary students dropped in the previous twelve months, a small decline in the use of crack cocaine and powdered cocaine was not statistically significant.<sup>51</sup>

### III. Cost Effectiveness

By 2004, the U.S. government will have spent roughly a billion dollars on the aerial eradication program initiated under Plan Colombia.<sup>52</sup> The price tag for this program grows steadily each year and there is no expectation that the Colombian government will be able to sustain the program without U.S. support. According to the General Accounting Office in June 2003,

*Neither the Colombian Army nor the Colombian National Police can sustain ongoing counternarcotics programs without continued U.S. funding and*

*contractor support for the foreseeable future. According to the U.S. embassy officials, these programs alone may cost up to \$230 million per year, and future costs for some other programs have not yet been determined...As GAO noted in 2000, the total costs of the counternarcotics programs in Colombia were unknown. Nearly 3 years later, the Departments of State and Defense have still not developed estimates of future program costs, defined their future roles in Colombia, identified a proposed end state, or determined how they plan to achieve it.*<sup>53</sup>

The State Department argues that crop control is by far the most cost-effective means of cutting supply, yet it ignores the fact that cutting supply is the least cost-effective way to reduce drug use. The RAND Corporation documented this in a 1994 study that concludes that source-country drug control efforts, including aerial eradication, are the least cost-effective means to control U.S. cocaine consumption. In terms of what the U.S. government would need to spend to reduce cocaine consumption by just one percent, researchers found investing in supply-reduction methods abroad to be twenty-three times more expensive than investing in drug treatment programs at home.<sup>54</sup>

## IV. Human Impacts

### Destruction of Legal Crops, Livestock, and Development Projects

As detailed in the following section, numerous official and unofficial reports indicate that aerial spraying caused significant damage to food crops, pasture, livestock, and agricultural development projects from 2000-2003. In many cases, the damages appeared to occur in areas where no coca crops were present or in areas owned by farmers who had signed eradication pacts and were in the process of eradicating coca and implementing alternative development projects.

The State Department denies that the fumigation has caused extensive collateral damage, arguing that the spraying is extremely precise and that the majority of complaints come from insurgents or disgruntled farmers who have lost their

coca crops.<sup>55</sup> In instances where areas under eradication pacts were sprayed, DoS has asserted that these farmers violated the terms of the pacts by planting new coca plants. DoS also maintains that “food crops do not get sprayed unless they are intermingled with coca,” whereby they are subject to spraying according to Colombian law.<sup>56</sup>

Yet there are many indications that a substantial number of these reports are indeed legitimate, namely: official verification of numerous complaints by Colombian inter-governmental commissions; the consistency of reports from varied independent parties; the sheer number of complaints – more than 6500 submitted to the Colombian government ombudsman (Defensoría del Pueblo) from late 2001 to October 2002;<sup>57</sup> reports of poor coordination between Colombian drug authorities and development agencies;<sup>h</sup> EPA modeling indicating that spray drift could extend up to 600 feet downwind of sprayed areas;<sup>58</sup> and DoS statements indicating a typical thirty percent overspray for aerial eradication operations in Guatemala.<sup>59</sup>

and are sprayed by accident. The U.S. and Colombian governments view farmers who intersperse food and illegal crops as criminals, and therefore, not worthy of compensation or aid. Many of the farmers whose food and cash crops are destroyed rely on them for their daily survival. Many have families, and the punishment to the farmers falls on their children and other family members. In contrast, a punishment to drug traffickers or drug abusers in the United States that involved leaving their children without food would certainly be considered cruel and unusual.

#### ***December 2000-March 2001***

The first round of the Plan Colombia spraying campaign in late 2000 and early 2001 caused particularly extensive damage to licit crops and productive projects, according to reports from Colombian national and regional authorities. In January 2001, an inter-governmental commission led by the Colombian Government Ombudsman verified that spraying in Putumayo in late 2000 and early 2001 had damaged eleven alternative development

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**A punishment to drug traffickers or drug abusers in the United States that involved leaving their children without food would certainly be considered cruel and unusual.**

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Whether the damages resulted from spray drift, policy conflicts, or poor interagency coordination, the impact on Colombian rural families from destruction of vital food and income sources is clearly unacceptable.

A particularly inhumane aspect of the aerial spraying program is the lack of provision for short-term aid, including food aid, for farmers who lose their food crops and cash crops as a result of the spraying. Withholding such aid is extremely harsh, whether farmers grow illicit crops interspersed with food crops and are sprayed intentionally, or grow no drug crops

projects that were funded by Colombian national and municipal governments and the United Nations. The commission confirmed that indiscriminate spraying had adversely affected food crops, medicinal plants, pasture, aquaculture projects, livestock, and patches of remaining native forest in the area. In some cases, the commission observed damages up to 150 meters from the nearest coca field.<sup>60</sup> In a second trip to Putumayo in late February, the commission reported that areas subject to voluntary eradication pacts had also been sprayed, in violation of the contracts signed by communities and authorities.<sup>61</sup>

<sup>h</sup> A September 7, 2002 statement from the Indigenous Organization of the Putumayo Zone (OZIP) declared that indigenous communities had confirmed their geographic coordinates in July 2002 with the Colombian alternative development agency PLANTE to make sure they were excluded from fumigation, but were sprayed nonetheless. When the communities spoke with PLANTE to complain, PLANTE said fumigation is in the hands of the police. When they went to the Colombian National Police, the police said PLANTE had never given them the coordinates.

### Sprayed if you do, sprayed if you don't

On November 24, 2001, a government crop duster plane flew over a small farm owned by a Colombian couple in the township of El Placer, in the Valle of Guamez, Putumayo. The planes sprayed herbicide over the farm, destroying three hectares of coca, and sickening three tanks of 900 fish. Shortly afterwards, the couple joined a "social pact" alternative development program offered by the Colombian government. They manually eradicated all of their coca and received two cows for which they prepared a pasture. They took out loans, bought seeds and wooden stakes, and planted black pepper plants. On January 7, 2002, despite the fact that no coca was being grown on their farm or adjacent areas, the spray planes returned and destroyed much of their food crops and pepper plants. On May 21, 2003, although again no coca plants were in the vicinity, the planes returned, and not only sprayed their fields, but their house while the family was inside. This third round of spraying decimated the food crops they had replanted, the pasture for the cows purchased with aid money, as well as the rest of the black pepper plants. "There was not one little plant left for the animals to eat," said the wife. The family's home was then destroyed in a conflict between insurgents and they moved to the nearest town. "There's not enough [money] for food," said the husband. "How are we going to pay to rebuild our house?"

– Testimony recorded by Witness for Peace, 2003

The Ombudsman additionally reported that the spraying in December 2000 damaged a German government-funded development project in Bota Caucana, Cauca and a Colombian government-funded project in the Inga Indigenous Reserve of Aponte in Nariño.<sup>62</sup> Another inter-governmental commission organized by the Ombudsman in March 2000 in the department of Caquetá reported environmental impacts similar to those in Putumayo as well as damage to a UN-funded development project. This commission also reported an incident in which a pilot had experienced mechanical difficulties, dropped his tanks overboard, and spilled 300 gallons of herbicide mixture on a farm in Nueva Granada de Valparaiso, contaminating nearby water bodies.<sup>63</sup>

Colombian regional and local government officials also reported widespread damage to subsistence food crops, such as plantains, yucca, and corn, as well as pasture and livestock. Reports from municipal officials in La Hormiga and Valle de Guamez, Putumayo cited several hundred complaints of damage, including reports that thousands of acres of crops had been destroyed and hundreds of fish had washed up on the banks of the Guamez River.<sup>64</sup> A municipal police inspection in Valle de Guamez found that of the 17,912 acres sprayed by February 21, 2001, only 12%

was dedicated to coca cultivation. Edmundo Meza, mayor of La Hormiga, claimed that the spraying had "plunged [the region] into a crisis. Even the cattle are going hungry because the herbicide dries out the pasture."<sup>65</sup> In mid-March 2001, Ivan Gerardo Guerrero, governor of Putumayo, claimed that of the roughly 30,000 hectares sprayed in the previous six weeks, approximately half was planted with basic food crops instead of or in addition to coca.<sup>66</sup>

#### **November-December 2001**

According to the Colombian Ombudsman and press, aerial spraying operations in November 2001 destroyed the food crops of small farmers in more than a dozen townships in Putumayo. From August through November, the Ombudsman received 1198 complaints of fumigation damages, the majority pertaining to food crops.<sup>67</sup> A significant portion of the damages occurred to farmers who had signed social eradication pacts with the Colombian government and were in the process of manually eradicating their coca crops in exchange for food aid and development assistance. The Ombudsman asserted that the spraying violated the terms of the pacts because the agreements guaranteed the signers a year to eradicate their illicit crops "starting

from the first disbursement for the food security project,” yet when the spraying occurred only a minute fraction of the pact signers had received any aid. Only 3.45% of the promised aid had arrived by October 2001.<sup>68</sup>

This round of spraying caused substantial damage to licit crops and livestock along the Ecuadorian border as well. One hundred eighty-eight farmers from different communities presented complaints to the Ecuadorian Government Ombudsman of the border city of Lago Agrio following the spraying in December 2001. The complaints alleged that the fumigation had damaged 2560 hectares of pasture and licit crops, including coffee, plantains and rice, and had killed 11,828 domesticated animals, primarily fish and chickens.<sup>69</sup>

### **August-September 2002**

In August and September 2002, aerial herbicide spraying caused significant damage to legal crops, pasture, and agricultural development projects funded by USAID and the Colombian government, according to reports from the Ombudsman’s Office, local nongovernmental organizations (NGOs), indigenous organizations and press.<sup>70</sup> The Ombudsman’s Office received nearly 600 complaints of damage from this round of spraying, of which more than 360 were

WITNESS FOR PEACE



*The yucca is a root, similar to a potato. This yucca plant was pulled out of the ground just before the picture was taken. Instead of being a hard root, it has rotted into a milky substance.*

and yucca, as well as cattle pasture in various villages.<sup>72</sup>

Indigenous leaders and local NGOs reported that in various cases the spraying had occurred in areas where coca crops had already been completely eradicated by hand,<sup>73</sup> and in at least one case, an indigenous community where coca had never been grown.<sup>74</sup> Moreover, in many cases where areas under social pacts

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The much-heralded palmito project was heavily hit by the spraying.

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made by farmers participating in USAID-funded eradication projects. The much-heralded palmito project, which feeds local palm harvests into a new government-funded processing plant, was heavily hit by the spraying for an estimated damage of US \$15,600.<sup>i 71</sup> The Public Ombudsman for the Valle de Guamez confirmed that the spraying had completely destroyed fields of cocoa (the raw material for chocolate), corn, plantain,

had been sprayed, the one-year grace period to eradicate the coca had not expired. In a letter to the Minister of Justice, the Colombian Ombudsman stated that “the date of July 27, [2002] cited by the government as ending the term [of the pacts] does not match either the actual date that they began nor what is agreed to in the pacts....The pacts textually state that the year begins once the aid actually begins to be delivered.”<sup>75</sup> The letter stated that by March

<sup>i</sup> A September 23, 2002 report from Agroamazonía, a business of municipal farmers’ associations, indicated that 80% of the palm crops (43.8 hectares) for the Palmito project were damaged. (Carmona, J.A. “Reporte de áreas afectadas por fumigación, agosto 1 a septiembre 23, 2002.” Cited in Acción Ecológica, ALDHU, et al., Report of Verification Mission, “Impacts in Ecuador of the Fumigations in Putumayo within Plan Colombia,” October 2002.)

### The U.S. vs. Yucca

In the town of El Campin, in Arauca, Colombia, a small farmer planted two and half acres of yucca to support this family – it would bring in about 5 million pesos (\$1,800). He planned to harvest the crop of tubers at the end of the year. He did not plant any coca on his farm and none could be found anywhere nearby. On October 2, 2003, the farmer, his children, and his wife, who was five months pregnant, were outside on the patio of their home, located in the middle of their fields. Abruptly, they heard a low rumble in the sky and spray planes flew overhead, expelling a trail of herbicide over their heads, the house, and their fields. Shortly afterwards, the children developed skin rashes. The yucca plants turned yellow and the tubers rotted in the ground. The entire crop was destroyed.

–Testimony collected by Witness for Peace, November 2003.

2002, only 21% of the aid for food security projects had been delivered, and only 24% of the 37,775 signers of the social pacts had received full or partial delivery of promised aid.

Rural communities along the Ecuadorian border also reported substantial damage to licit crops and livestock from this round of spraying.<sup>76</sup> One Ecuadorian farmer reported that the spraying had killed 70,000 newly hatched fish in aquaculture ponds, while another cited thousands of dollars in damages to a poultry project funded by an Ecuadorian development institute.<sup>77</sup> In response to these and other damages, twenty communities along the Ecuadorian border formed a committee to address impacts of fumigation in Ecuadorian territory. Photographs taken by the committee members show damage to food crops such as yucca and plantain as well as chickens that lost their feathers following spraying.<sup>78</sup>

#### **May 2003**

Field investigations by various NGOs in the provinces of Antioquía, Bolivar, and Putumayo revealed that aerial spraying operations in late May 2003 indiscriminately affected food crops, pasture, and livestock. According to data collected by a thirteen-member commission of local, national, and international NGOs in the Valle del Río Cimitarra and southern Bolivar in early June, an average of four hectares of food crops were destroyed for every one hectare of coca in two townships.<sup>79</sup> During a field visit to Valle de Guamez, Putumayo in early June, US NGOs Witness for Peace and the Institute for

Policy Studies photographed extensive damage to food crops in areas where coca was non-existent. The photos also document where homes and water sources, used for drinking, bathing, and washing, were sprayed with herbicide.<sup>80</sup> Likewise, in a July 2003 visit to southern Bolivar, the Colombian NGO Justapaz verified numerous instances where food crops had been destroyed by the fumigation, although located at significant distances from the nearest coca fields. For example, in Pozo Azul, three hectares of rice were destroyed by the spraying, yet the nearest coca plants were more than 500 meters away and separated by a field which did not appear to have been sprayed. Individuals interviewed also reported that springs and surface water bodies had been sprayed, small domesticated livestock had been poisoned, and a Norwegian government-funded rural development project lost 1,000 chickens as a result of herbicide drift.<sup>81</sup>

#### **September-November 2003**

On November 1-4, 2003, a ten-member commission of Colombian and international human rights organizations conducted a mission to verify damages caused by aerial spraying in the department of Arauca.<sup>82</sup> The commission observed that there were no coca plants on the majority of farms sprayed. They also found that on those farms that did contain illicit crops, the spraying had primarily damaged the food crops without affecting the coca plants. The commission observed that the spraying had extensively destroyed food crops and cattle pasture, even when a farmer had

communicated with the appropriate military commander beforehand to avoid spraying. On November 2, 2003, an Antinarcotics Battalion of the Colombian National Police detained the commission and demanded that the group hand over all photo and video film. When the parties refused and went to speak with the captain in charge, the soldiers initiated an intimidating show of gunfire, purportedly directed at guerrillas, which forced the commission to run for cover.<sup>83</sup>

### Health Risks and Effects

Since intensive aerial spraying began under Plan Colombia, rural residents have consistently reported to government authorities and the press that they have experienced significant exposure to the spray mixture and suffered from a variety of health ailments following the spraying. The State Department has repeatedly discounted these reports and attributed the claims to poor rural health conditions and exposure to agricultural and drug processing chemicals. DoS officials have even argued that the herbicide is as safe as “baby shampoo.”<sup>84</sup>

While the more exaggerated claims of health impact from the spraying may be unfounded, DoS’ assertions that the spray program is completely safe for human health are unjustified. Appropriate public health studies to determine the impact of the spraying on peoples’ health have not yet been

conducted. As such the EPA has been unable to adequately assess the potential health effects of the spray program. The EPA has also recognized that some of the more consistent health claims are credible. For example, after years of the State Department discounting claims of eye and skin irritation, the EPA requested that State change the spray mixture in late 2002 because the herbicide product used at that time had the potential to cause “irreversible eye damage.”<sup>85</sup> The agency also acknowledged that many reports of irritation to skin, eyes and mucous membranes, among the most common complaints, “are consistent with exposure to glyphosate products by the dermal route.”<sup>86</sup> In addition, the EPA has described how the use of the herbicide formulation in Colombia is inconsistent with use of such herbicides in the United States. Finally, U.S. and Colombian scientists have identified major information gaps and uncertainties regarding health effects of the aerial eradication program.

### Reports of Herbicide Exposure and Adverse Health Effects

Many anecdotal reports indicate that Colombians have been sprayed directly by the fumigation planes or exposed to herbicide drift, despite the State Department’s assertion that pilots do not spray fields when humans and animals are present.<sup>j 87</sup> In one recent instance in the town of Oasis in Arauca, a

#### “The poison lingered in the air... my eyes and nose burned”

“Ginny” is a 17-year old refugee from the Valle de Guamez, Putumayo. She and her family fled to Ecuador in April 2001. “We left because we had no food, they sprayed everything....,” she recounted in an interview. When the planes came to spray, “[t]he poison lingered in the air for five minutes, it was strong. My eyes and nose burned, I got sick and vomited. I couldn’t talk. My speech was paralyzed. And my body burned inside.” In September 2002, she still complained of the symptoms, which she said she had not experienced before the spraying. “My head sometimes feels heavy, my whole body feels heavy, and I can’t walk for long before getting nauseated. On some days, it’s hard to get out of bed....”

This example indicates the emotional trauma, as well as other health effects, experienced by some of those affected by spraying.

– *Personal testimony collected by Jim Jones, cited in “War in and Near the Borderlands: Colombia’s Armed Conflict in a Context of National, Regional, and Global Security,” draft version, 2003.*

<sup>j</sup> Even the late Senator Paul Wellstone was sprayed while observing a fumigation operation in December 2000. (“Wellstone accidentally sprayed with herbicide during police demonstration,” Associated Press, December 1, 2000.)

school teacher described how a plane sprayed herbicide directly over the school while the children were inside.<sup>88</sup> Even one of the toxicological reports submitted by DoS for the 2003 certification cites a statement from a Colombian woman who observed that “while her husband was working in a coca field, an airplane flew overhead and sprayed the field.”<sup>89</sup> In an interview with a Colombian NGO, one farmer in southern Bolivar lamented, “I was standing in my corn fields when I saw the plane coming. Frantically I waved my arms, signaling them to not spray my crops...but soon I felt the poison running down me.”<sup>90</sup>

Residents also report that planes have sprayed herbicide directly over homes, schools, and wells and other water bodies used for drinking water, bathing, and washing clothes.<sup>91</sup> Numerous photographs taken by U.S. NGOs Institute for Policy Studies and Witness for Peace show homes and streams located directly in a flight line, surrounded by fields destroyed by fumigation.<sup>92</sup> Many of the houses are simple structures with openings between slats and roofing materials where the herbicide mist can easily pass through.

Colombian regional authorities have reported hundreds of complaints of health ailments associated with the fumigation. In a December 2001 study by the Putumayo health department, researchers found that 82% of the fumigation complaints in municipalities of Orito, Puerto Asis, and Valle de Guamez, Putumayo referred to adverse health effects experienced after spraying events. In this study, gastrointestinal and respiratory problems were reported with the greatest frequency, followed by skin irritations, fever, dizziness and others. The report also indicated that the municipal hospital of La Hormiga found a statistically significant increase in fevers, diarrhea, abdominal pain, acute respiratory infection and skin infections following the spray events.<sup>93</sup>

Colombian and Ecuadorian government authorities, press, and NGOs have cited similar health complaints from residents in

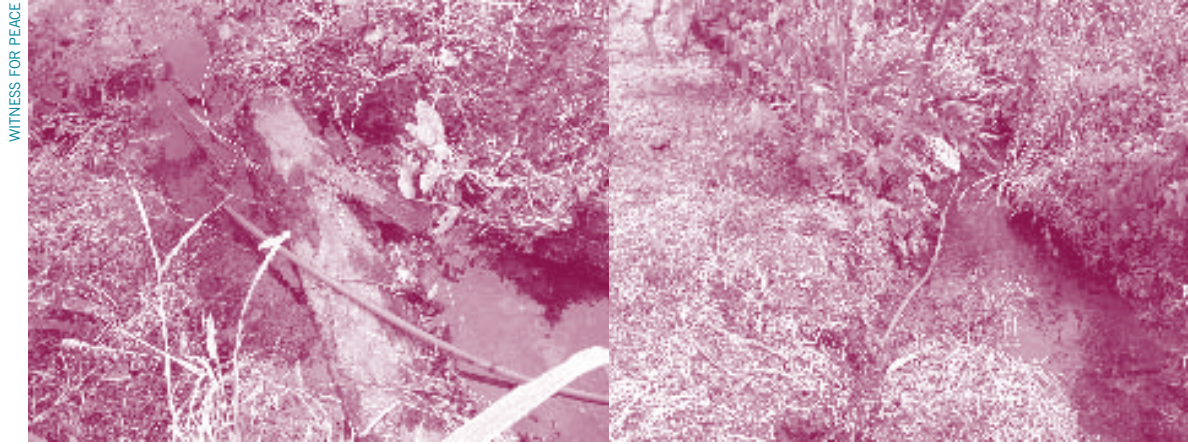
sprayed areas.<sup>94</sup> An Ecuadorian government commission reported in July 2001 that 90% of interviewees on the northern border in the province of Sucumbíos reported unusual health effects following the spraying, including dermatitis, eye and respiratory irritation, and fatigue.<sup>95</sup> During field investigations to fumigated areas, the Ecuadorian NGO Acción Ecológica, a Colombian NGO commission in the Valle de Río Cimitarra, and the Colombian NGO Justapaz all collected numerous reports of health ailments associated with exposure to the spray mixture, including skin rashes, dizziness, fever, diarrhea, vomiting, cough, headache, burning in eyes, loss of appetite, respiratory ailments, and difficulty breathing, particularly for those sprayed directly.<sup>96 k</sup> According to some reports, infants and young children appear to have suffered more severe effects from the spraying than adults.<sup>97</sup> As of May 2003, the Colombian Ombudsman noted the increasing number of complaints of eye, skin, respiratory and digestive ailments in sprayed areas.<sup>98</sup>

### ***Studies on Health Effects of Glyphosate Herbicides***

While glyphosate herbicides are marketed as exceptionally benign, occupational surveys and medical studies demonstrate that exposure to these herbicides can cause a range of adverse health effects. According to a 2002 report by the California EPA Department of Pesticide Regulation, unintentional worker exposure to small amounts of glyphosate herbicides caused burning of eyes, blurred vision, dizziness, skin rashes, rapid heartbeat, difficulty breathing, headaches, nausea, and diarrhea, among other symptoms.<sup>99</sup> Studies of farmers and others workers exposed to glyphosate herbicides found associations with the cancer non-Hodgkin’s lymphoma and increased risk of miscarriages and premature births in farm families.<sup>100</sup> Chronic toxicity studies have not been conducted for glyphosate herbicide formulations, which are known to be more toxic than glyphosate alone, and therefore no suitable data exists to predict possible long-term health effects. However,

<sup>k</sup> Based on a study from November 2003, conducted at the Genetics Laboratory at the Catholic University of Quito, Acción Ecológica alleges that the spraying has caused chromosomal damage in women living in border areas where aerial spraying is conducted. “22 Women with Genetic Damages from Fumigation on the Border,” *El Comercio*, November 11, 2003.





*A stream that was fumigated, including the hose bringing water to a farmer's house. Note the dead grass on either side. The location of this hose is approximately 50 meters from the nearest coca. The photographs were taken on June 9, 2003 in the municipality of Valle del Guamués in the department of Putumayo, Colombia.*

laboratory studies of long-term exposure to glyphosate show a variety of symptoms including decreased body weight, cataracts, salivary gland lesions, and inflammation of stomach lining.<sup>101</sup>

While the level of exposure that caused the adverse effects noted above may not reflect exposures of Colombians affected by the spray program, this data should be considered when evaluating the nature of complaints in Colombia. Because EPA hazard assessments do not consider data on long-term health effects for herbicide formulations nor do they evaluate inert ingredients for reproductive effects, carcinogenicity, or other harms, it is possible that some toxic impacts of this herbicide product, especially when sprayed at the high dose rates used in Colombia, could have been overlooked.<sup>102</sup> Also, given the lack of publicly available data on actual spray conditions in Colombia and the fact that rural residents are usually uninformed and unprepared for spray events, the potential for short-term high-dose exposures cannot be ruled out.<sup>103</sup>

### **Health Studies and Monitoring**

Despite the risks and the flood of health complaints, neither the U.S. nor the Colombian government has conducted appropriate public health studies or monitoring to assess the potential health effects of the aerial eradication program on

Colombian citizens. Of the two studies funded by the State Department, the first study in Nariño could not be used to draw conclusions about the health effects of the coca eradication program because it was limited to impacts of poppy eradication. Compared to coca eradication, significantly smaller quantities of less concentrated herbicide solutions are used to eradicate poppy. The second study, carried out in Putumayo, was conducted too long after the spraying and the data did not permit the researchers to “confirm or refute a link” between exposure to the spray chemicals and the health symptoms reported.<sup>104</sup> As explained in court testimony by Dr. Camilo Uribe, chief toxicologist of the clinic that conducted both studies, “... the studies we conducted were retrospective, in order to measure health impacts it is necessary to evaluate health conditions both before and after the spraying...”<sup>105</sup>

The U.S. Embassy claims to investigate all major fumigation-related health complaints brought to its attention and collaborates with the Colombian government to hold Medical Civic Action Programs (Medcap) to search out health harms allegedly caused by the spraying.<sup>106</sup> However, retrospective case-by-case investigations and sporadic health care clinics obviously do not permit scientists to recognize the nature or pervasiveness of potential health effects, particularly less severe impacts such as skin rashes, eye



*Woman in sprayed field. Note proximity of house to field.*

irritation, nausea, and diarrhea. As both the Center for Disease Control and the EPA indicated to the U.S. Embassy in Bogotá, “because there are no reliable biomarkers of glyphosate exposure” it is impossible to determine whether aerial spraying is making people sick without testing subjects before and immediately after the spraying.<sup>107</sup>

Furthermore, the EPA noted in the 2003 consultation report that the State Department has not provided “a case definition for what would constitute a glyphosate-related

recommended, so that future analysis can look for patterns across patients not only to identify related cases, but perhaps identify new effects previously unsuspected and that might be associated with low-level exposure to glyphosate spray drift.”<sup>108</sup>

The Colombian government has not carried out public health studies to determine the effect of aerial spraying of glyphosate formulations on human health.<sup>109</sup> Despite requirements by Colombian law and orders by three Colombian Ministers of Health in 1984, 1992, and 1994, the Colombian government failed to implement the required Epidemiological Monitoring Plan for the aerial eradication program.<sup>110</sup> In late 2003, the Colombian government removed the legal requirement to conduct this monitoring plan.<sup>111</sup>

The Inter-American Drug Abuse Control Commission of the Organization of American States is beginning a scientific assessment of the health and environmental effects of the spray program in January 2004. However, the results are not expected until 2005.<sup>112</sup>

***FY2002 and FY2003 State Department/EPA Assessment of Health Risks/Effects and Compliance with U.S. Label Laws***

In September 2002, the State Department submitted a report to Congress to satisfy a condition in the foreign aid appropriations

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The EPA indicated that the glyphosate formulation used in Colombia at the time could cause “irreversible eye damage.”

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poisoning.” Without knowing what to look for, Medcap personnel are unlikely to find cases of spray-related intoxication. According to the EPA, such a definition is required to conclude, as the DoS does, that the team has “never found an instance of spray-related harm to human health.” The EPA concludes that, “It would be useful to continue these efforts and further document the manner in which follow-up is performed. Standardized collection of data on patients and their symptoms is

act requiring that DoS consult with the EPA and report that the “aerial coca fumigation program is being carried out in accordance with regulatory controls required by the Environmental Protection Agency as labeled for use in the United States and....the chemicals used in the aerial fumigation of coca, in the manner in which they are being applied, do not pose unreasonable risks or adverse effects to humans or the environment.” In December 2003, DoS

submitted a second certification report responding to a similar condition in the FY2003 foreign aid act.<sup>1</sup> In both reports to Congress, the State Department interpreted EPA's findings and concluded that the fumigation program poses no danger to human health.

However, while the EPA did not find evidence of significant health risks, in neither consultation report did the EPA conclude that the spraying program "poses no unreasonable risks or adverse effects to humans" or that the program complies with all U.S. label requirements. Rather, in 2002 the EPA

that DoS conduct "prospective tracking of reports of health complaints, documenting times of exposure and onset of symptoms" for future spray operations, as this would enable DoS to "evaluate any potential health effects and ameliorate or prevent their recurrence."<sup>116</sup>

Regarding label requirements, in 2002 the EPA stated that while the volume of herbicide sprayed in Colombia complied with U.S. label laws, it could not verify compliance with regulatory controls in Colombia, unlike in the U.S. where the EPA can assure compliance with label laws on such issues as drift and bystander exposure through state government

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The EPA noted "The glyphosate formulated product is known to cause irritation to the skin, eyes, and mucous membranes which may account for some of the reports of sore throats, conjunctivitis, dermatitis and other conditions."

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issued a cautious report that highlighted one potential health risk and recognized various data limitations and uncertainties. The agency indicated that the glyphosate formulation used in Colombia at the time (Roundup Export) could cause "irreversible eye damage" and recommended the use of a less toxic product.<sup>113</sup> It noted that "the potential eye effects are related to an inert ingredient, not the glyphosate itself" – a point that underscores the need to assess risks posed by the entire spray mixture.<sup>114</sup> The EPA refrained from drawing conclusions about health effects from the spray program, owing to a lack of relevant and valid data for the coca eradication program. The agency acknowledged that many of the anecdotal health reports of irritation to skin, eyes, and mucous membranes "are consistent with exposure to glyphosate products by the dermal route. So it is possible that some cases could be related to the aerial eradication program."<sup>115</sup> Finally, the EPA recommended

controls. The EPA also emphasized that in the United States "[a]pplication to forestry sites by fixed wing aircraft, if practiced at all, is extremely rare." "Most U.S. labels for forestry and right-of-way use of glyphosate suggest application by helicopter. Since application in Colombia is done by fixed-wing aircraft, it is likely conducted at a higher speed and from a greater altitude than would be typical in the U.S."<sup>117</sup> Finally, the EPA noted that small water bodies could be sprayed in a program of this size, even though the product label explicitly prohibits direct application to water.<sup>118</sup>

In the 2003 consultation, the EPA found that the concerns regarding eye damage "have been mitigated by switching to the lower toxicity product."<sup>119</sup> It concluded that the risks from exposure to glyphosate through different pathways are non-existent or "likely minimal." However, aside from noting the results of acute toxicity tests of the spray mixture, it did

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<sup>1</sup> The FY2003 foreign aid appropriations act specified that "not more than 20 percent of the funds appropriated by this Act that are used for the aerial coca and poppy fumigation programs may be made available for such programs unless the Secretary of State, after consultation with the Administrator of the Environmental Protection Agency (EPA) certifies to the Committees on Appropriations that (1) the herbicide mixture is being used in accordance with EPA label requirements for comparable use in the United States and any additional controls recommended by the EPA for this program, and with the Colombian Environmental Management Plan for aerial fumigation; (2) the herbicide mixture, in the manner it is being used, does not pose unreasonable risks or adverse effects to humans or the environment..."

not draw conclusions about the risks of inert ingredients or the spray mixture as a whole. The EPA observed that reports of health effects for coca and poppy lacked appropriate details and did not draw its own conclusion about health effects of the spray program. As discussed earlier, it recommended “standardized collection of data on patients and their symptoms.”<sup>120</sup> The agency also noted that the U.S. Embassy must provide a clearly-stated definition for “what would constitute a glyphosate-related poisoning” to support the Embassy’s contention that it has “never found an instance of spray related harm to human health.” After reviewing a series of spray-related health complaints from Nariño, the agency reiterated, “The glyphosate formulated product is known to cause irritation to the skin, eyes, and mucous membranes which may account for some of the reports of sore throat, conjunctivitis, dermatitis and other conditions. Many of the reports are consistent with exposure to glyphosate products by the dermal route, as reported in California and the literature. So, it is possible that some cases could be related to the aerial eradication program.”<sup>121</sup>

Regarding compliance with U.S. label laws, in 2003 the EPA stated that the application rates for coca and poppy eradication are within the parameters on U.S. labels, but provided evidence that the use of glyphosate herbicides in the spray program is not consistent with the use of such herbicides in the United States. The EPA stated that “in general, glyphosate is not applied in the U.S. to destroy or kill the raw agricultural commodity. The intended U.S. uses are for undesired vegetation in and around crop fields, forests, industrial areas, and residential areas.”<sup>122</sup> The EPA also explained that the typical application rate of glyphosate in the U.S. is much lower than in the spray program, “averaging less than one pound per acre [of active ingredient] on major agricultural sites.”<sup>123</sup> The amount of glyphosate sprayed on coca in Colombia (4.4 lbs per acre twice a year) far exceeds the dose of this herbicide sprayed on both forestlands and agricultural areas in the

United States.<sup>124</sup> This indicates that people and animals that enter the fields following spray events are exposed to much higher levels of pesticide than occurs in similar situations in the United States. Lastly, even though the product label prohibits direct application to water, the EPA once again noted that small water bodies may be sprayed in a program of this size.

### **Outstanding Health Concerns**

Various U.S. scientists and health professionals critiqued the 2002 EPA analysis and DoS report to Congress and identified weaknesses in the assessment not noted by the EPA.<sup>m</sup> A few of the most prominent critiques, which hold true for the 2003 assessment as well, include:

- The assessment was not based on any concrete evidence that safeguards to minimize human exposure to the spray mixture are implemented and effective. For example, DoS provided the EPA with no data regarding spray drift studies, compliance with spray parameters, on-site ground inspections, or effectiveness of pilot training.<sup>125</sup> This is particularly worrisome given that the EPA analysis estimated that spray drift could extend up to 600 feet downwind of sprayed areas<sup>126</sup> and a 2003 report by the House Government Reform Committee characterized the handling of the spray aircraft as “a maintenance nightmare.”<sup>127</sup>
- The risk assessment did not adequately consider dermal, inhalation, and incidental oral exposure to the herbicide spray mixture.<sup>128</sup> Unlike in standard exposure assessments, the EPA did not refer to field data that reflected actual conditions of herbicide application, but based their assessment solely on DoS exposure scenarios.<sup>129</sup> Thus, since DoS claimed that pilots adhere to protocols to minimize drift and do not spray people, homes or water sources, the EPA did not fully examine these exposure pathways.
- The risk assessment was insufficient because the toxicological evaluation of the

<sup>m</sup> For complete reviews of the State Department Report on Aerial Eradication, see <http://www.amazonalliance.org/scientific/scientific1.htm>. Also, see Astrid Puentes, LL.M., Thomas Ruppert, J.D. Candidate, Provisions for Aerial Eradication of Coca and Poppy in Colombia Under U.S. Law, Conservation Clinic, University of Florida College of Law, May 2003.

tank mixture, the spray additive, and the inert ingredients in the formulated pesticide were incomplete. For example, the analysis did not discuss any studies on the inert ingredients in the pesticide product that assess developmental toxicity, reproductive effects, sub-chronic toxicity, chronic feeding toxicity, or mutagenicity.<sup>130</sup> Nor did the risk assessment consider several recent studies that indicate exposure to glyphosate formulations can inhibit reproductive function in mammals and humans and lead to birth defects and neurodevelopmental effects.<sup>131</sup>

- ▶ The assessment failed to provide information on the effectiveness of the educational program to warn citizens of the spraying and inform them of actions to take in the event of pesticide exposure.<sup>132</sup> Many rural Colombian families do not own radios (over which warnings are broadcasted) and some indigenous families may have limited understanding of announcements made in Spanish.<sup>133</sup> The Colombian NGO Justapaz reported that in southern Bolivar none of the farmers interviewed had received specific warnings about the timing or location of the spraying or precautions to take to minimize health effects.<sup>134</sup>
- ▶ The assessment was inadequate because it did not consider the health or cultural impacts that may result from food destruction and displacement caused by the spraying.<sup>135</sup> Since poverty, geographic isolation, security risks, and roadblocks by armed actors often limit rural Colombians' access to food, destruction of food crops could have serious adverse impacts on nutrition levels.<sup>136</sup> The effects of displacement would also be particularly severe for indigenous communities since indigenous culture is tied to territory and thus forced displacement from their land results in the breakdown of cultural identity.<sup>137</sup>

As is evident from these critiques, without unimpeded access to data on spray operations and real-life application conditions from authorities and external parties in the United States and Colombia, the EPA and other official bodies will be unable to accurately determine the health risks posed by the spray program.

### **Compensation for Damage to Legal Crops and Health**

In the FY2002 foreign aid act, Congress required that funds be made available to purchase spray chemicals only if, "procedures are available to evaluate claims of local citizens that their health was harmed or their licit crops were damaged by such aerial coca fumigation, and to provide fair compensation for meritorious claims." The compensation provision in the FY2003 foreign aid bill went beyond simply requiring DoS to show that compensation procedures exist and required DoS to show that "complaints of harm to health or licit crops caused by such fumigation are evaluated and fair compensation is being paid for meritorious claims." However, an examination of the State Department's 2002 and 2003 reports to Congress on compliance with the aerial spraying conditions suggest that these procedures may exist on paper, but they barely function in reality.

#### ***Claims of damage to licit crops***

Of the thousands of claims filed since the start of Plan Colombia, the State Department's 2003 report cited that only five cases had been ruled valid since the start of the compensation process in October 2001 and a total of \$18,500 had been paid for damages. This outcome does not seem credible given the substantial anecdotal reports available about damage to food crops and alternative development projects (described earlier) and the thorough reports prepared by the Colombian government's own Ombudsman's office, discussed below.

The State Department reports that claims of damage are sent to municipal representatives who refer them to a local agricultural agency to be verified in a field visit. If the complaints are verified, the municipal representatives submit the complaint and a record of preliminary verification to the Antinarcotics Police (DIRAN) and the National Directorate of Dangerous Drugs (DNE). The DIRAN is then required to certify within five days whether spraying took place in the vicinity of the complaint. If the claim is certified, DIRAN makes a field visit within ten days to evaluate the veracity of the claim and the potential amount of



compensation to be paid. It is important to note that the agency responsible for the spraying operation is the agency in charge of verifying claims, and it has no incentive to admit to spraying errors.

As of December 2003, the State Department claims that the Colombian Government received 4,329 complaints, of which 63% were investigated. Of these, 44% were denied because the crop damaged was coca or food interspersed with coca; 52% were denied because there was allegedly no spraying at the time of the complaint; and 5 cases were ruled valid.<sup>138</sup>

The Colombian Ombudsman's office undertook a review of cases of damage to legal crops in 2002. The office claims that 6,533 claims were received by the national and local offices of the Ombudsman as of October 2002 alone – a substantially greater universe of claims than the 4,329 claims the DNE has reportedly received according to the December 2003 State Department report. The Ombudsman's office did not confirm all these claims in a systematic way

the social pacts were fumigated before the year expired;<sup>140</sup> they received no compensation.

It is very dubious that thousands of claims would be filed where there was no spraying at all, given the substantial security risks, time, and expense involved in farmers traveling to town and filing claims. The Ombudsman's office indicated some of the problems with the claims process that may have led to the rejection of so many claims for this reason. It observed that the DNE was rejecting claims if the complainant could not specify the precise hour of the spraying and location of his farm in terms accepted by the DNE, and that municipal representatives who were to register claims had not received the maps, forms and training to do so.<sup>141</sup> Finally, the fact that the Antinarcotics Police was responsible for both conducting spraying and investigating claims of damage suggests that the entire compensation procedure was likely compromised by a conflict of interest.<sup>142</sup>

Moreover, there are undoubtedly many cases in which farmers who had no coca crops had their legal crops destroyed and did not

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“I tell them it's a lost cause, because they don't compensate anyone.”

– *Official in charge of receiving claims in La Hormiga*

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but did confirm, through site visits, numerous cases of damage to legal crops and development projects where no coca was present.<sup>139</sup>

It is quite credible that some of the claims did indeed involve food mixed with coca crops. Some farmers, outraged by the loss of their food crops, assumed that if there was a compensation process, it would cover the loss of food crops, whether or not they also planted coca. However, some of these farmers were participating at the time in “social pacts” in which they agreed to eradicate all coca crops within one year. According to written, signed agreements with the Colombian government, the one-year grace period for eradication began after the promised aid began to be delivered. According to the Ombudsman's office, a significant number of farmers participating in

file claims, much less have them adequately evaluated. According to some reports, the claims process was not advertised in many areas, and in parts of the country with traditionally poor government service and low trust in government, many farmers would assume they had no recourse. For example, in July 2003, most peasants in the southern Bolivar region interviewed by the Colombian NGO Justpaz indicated that they were largely uninformed about procedures for applying for compensation. Those who had attempted to file claims reported that officials were unprepared and took notes on scraps of paper.<sup>143</sup> The incredibly low rate of claims that receive compensation – a total of five cases nationally in three years of heavy spraying – would also discourage farmers from bothering to file claims. As the Ombudsman of La Hormiga

explained to Witness for Peace, “I receive the complaints from farmers but I tell them that it’s a lost cause, because they don’t compensate anyone.”<sup>144</sup> While additional pilot training on how to avoid drift reported by DoS in 2003 may have reduced the damage to legal crops from recent spray operations, the lack of a viable compensation process doubtless is diminishing the number of claims that are filed.

### Health claims

Regarding procedures for claims of health harm, the situation appears even grimmer. In both the 2002 and 2003 certification reports, the State Department did not indicate that any special procedures for filing health complaints exist. DoS asserts that the U.S. Embassy investigates all serious claims of alleged health harms, but that in order to obtain compensation, citizens must file a legal complaint or a lawsuit against a Colombian government agency. Obviously, the scant economic resources, limited formal education, and remote location of farmers affected by the fumigation, would prevent most individuals from filing a legal complaint or lawsuit to seek compensation. Furthermore since the U.S. Embassy only investigates cases “upon notice to the U.S. Embassy of a problem,” this mechanism cannot be construed as an effective claims procedure.<sup>145</sup> Therefore essentially no formal procedures to evaluate and provide compensation for claims of health harm are yet available.

### Alternative Development

*“[T]he problems of drugs and violence [in Colombia] will not be solved on a sustained basis unless the fundamental causes of these problems are also addressed;...unless [the government] is better able to provide jobs and services to the rural poor and give them a stake in the future and improve the quality of life....”*

Michael Deal, Acting Assistant Administrator of the Bureau for Latin America and the Caribbean, US Agency for International Development<sup>146</sup>

*“If the idea is to root out coca, give us an incentive, a reason, or establish new*

*circumstances in which we can work and sustain ourselves.”*

Parish priest, Miraflores, Colombia<sup>147</sup>

To achieve sustainable reductions in illicit crop cultivation, it is obvious that farmers must have viable economic alternatives to coca and poppy production. Providing alternative sources of income for farmers whose crops have been destroyed is also necessary to prevent human suffering. Yet despite its importance, the U.S. and Colombian governments have dedicated insufficient resources and attention to alternative development programs implemented under Plan Colombia. Initial development programs were poorly planned and executed. Programs have improved and are making progress in the limited geographic areas that receive sufficient investment. However, serious concerns about the scope and sustainability of the efforts far overshadow these gains.

Alternative development programs do not cover more than a subset of the small farmers whose crops are targeted for aerial fumigation. USAID, which funds the majority of alternative development programs in Colombia, set targets of promoting 65,042 hectares of legal crops from 2001 through 2005. As of February 2004, AID had supported a total of 38,563 hectares of legal crops.<sup>148</sup> Yet the spraying reached 220,000 hectares in 2001 and 2002 alone with similar rates predicted for the remaining years, likely to surpass 500,000 total hectares by 2005. While as explained below, these figures are not directly comparable, they suggest the immense gap between fumigation and alternative development programs.

Skeptics of alternative development correctly point out that no crop will provide nearly as much profit as coca will provide. Yet as small farmers in Colombia will quickly tell you, “coca brings violence.”<sup>149</sup> The negative social impact of coca production—violence and the destruction of communities and families—serve as a major incentive for small farmers to abandon coca production if provided some assistance. See for example this teaching tool used by the Putumayo government in its anti-

coca campaign, weighing the benefits versus costs of growing coca.

**Teaching Tool Used in Putumayo Province<sup>150</sup>**

COCA	NO COCA
Resources	Fewer resources
Paramilitaries	More tranquility
Guerrillas	
Displacement	
Deaths	
Human rights violations	

***The Need for Alternative Development***

Beyond coca and opium poppy production, Colombian farmers have few options for earning sufficient income to meet their basic needs. The farming sector is hobbled by small landholdings, poor marketing, and the absence of credit. The security, roads and transport needed to support substantial agricultural trade do not exist in most rural areas. Among the attractions of drug crop cultivation is that traffickers offer rural credit programs and deliver crops to market.

nine municipalities in Putumayo.<sup>154</sup> According to the pacts, farmers agreed to eradicate their coca in exchange for short-term food aid and aid for agricultural production projects. When originally proposed by the communities in Putumayo, these pacts included various components to ensure integral sustainable development of the region. However, the government failed to incorporate many of these components, such as agricultural and environmental assessments, training, and technical assistance. It also imposed a one-year deadline for eradication that made it necessary to focus on immediate food security rather than long-term sustainable development.<sup>155</sup>

In addition, the government failed spectacularly to deliver the aid in a timely fashion. For example, it took fourteen months to deliver the food security aid to just 4.86% of the farmers who signed the first social pact in December 2000.<sup>156</sup> More than two years later, only 21% of the aid for food security projects had been delivered, and only 24% of those participating

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The development programs only offered economic alternatives to a fraction of the farmers affected by the fumigation program.

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In 2000, 51% of the rural labor force was unemployed or earned less than half of the daily minimum wage.<sup>151</sup> Consequently, more than 40% of Colombian farmers live below the poverty line.<sup>152</sup> Official figures indicate that 77% of the population in Putumayo is “unable to satisfy their basic needs” and 12% “live in misery,” whereas nationwide, the averages are 26% and 8% respectively.<sup>153</sup>

***Alternative Development Programs: 2000-2002***

Despite this great need, initial alternative development programs for farmers affected by the fumigation were poorly designed and coordinated. From December 2, 2000 to July 31, 2001, the Colombian government developed and signed thirty-three “Social Pacts for Voluntary Eradication and Alternative Development” involving 37,775 families in

in social pacts had received all or a portion of the promised aid.<sup>157</sup> Food security projects were also hampered by poor planning, such as when industrial chickens with no beaks were delivered without the special feed required to keep them alive.<sup>158</sup>

The implementation of alternative development programs was also frustrated when crops, pasture and livestock purchased with development funds were damaged and destroyed by herbicide from the fumigation program, as detailed earlier. Communities also reported that aerial herbicide spraying had damaged or destroyed pastures where cattle purchased with aid money were to graze.<sup>159</sup>

The alternative development programs implemented through 2002 only offered

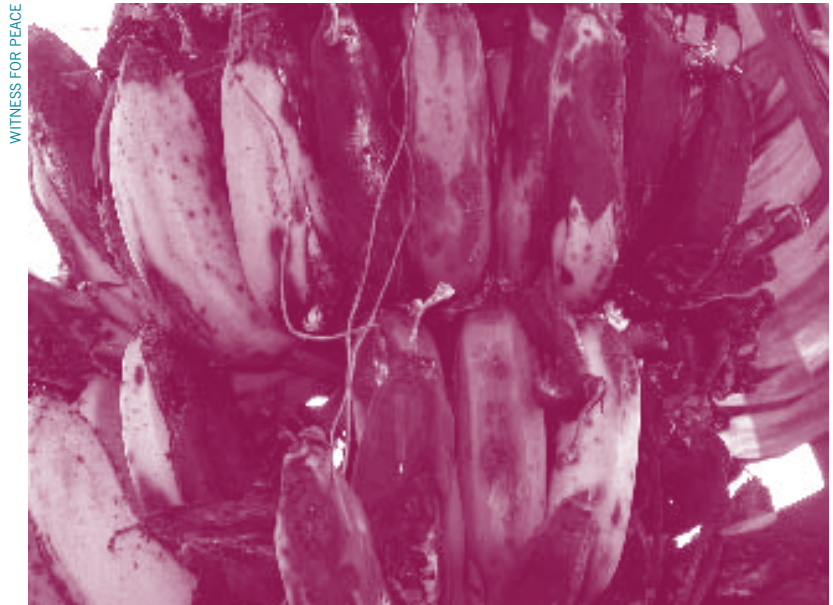


economic alternatives to a fraction of the farmers affected by the fumigation program. While the governments sprayed 94,000 hectares of coca in 2001 and 122,965 hectares of coca and 3,043 hectares of poppy in 2002, the US Agency for International Development (USAID) provided aid to small farmers for only 11,842 hectares of legal crops from 2000 to 2002.<sup>160</sup> Granted, the amount of hectares sprayed would logically be more than hectares served by alternative development. Some areas sprayed would not merit alternative development funding; for example, areas owned by large landholders and farmers who reject eradication agreements. Some plots are sprayed two to three times. And some small farmers are served by infrastructure development even if they receive no direct aid.<sup>161</sup> Even so, it is abundantly clear that fumigation far outpaced alternative development programs for small-scale farmers, and that many of these farmers, who would have likely chosen to eradicate with development aid, were not offered this choice.

Partly as a result of this imbalance between fumigation and alternative development programs, as well as the continuing violence, farmers and their families left Putumayo by the thousands. According to a Colombian government survey, an estimated 50,000 people, roughly 15% of the population, left Putumayo in 2002.<sup>162</sup> The State Department reported to Congress in February 2003 that the local economy in Putumayo had suffered a significant downturn and that business leaders in four towns in key coca-producing regions complained that commerce was dying. “The fumigation has done away with everything: the town, the business, the people,” lamented a community leader from El Topacio, Putumayo.<sup>163</sup> While some would argue that the large population involved in coca production could not be sustainably supported by agriculture or other productive ventures in Putumayo, no known development programs were initiated in other regions to provide for the economic needs of those displaced.

### **Alternative Development Programs: 2002-2003**

In response to criticisms and difficulties encountered with initial programs, the U.S. and Colombian governments made various changes



*Bananas rot as they hang from a dead tree. Villa Nueva, October 2003.*

in alternative development programs in 2002-03. Some of the Colombian nongovernmental agencies working with the Putumayo programs were eased out, being accustomed to providing disaster relief in other parts of the country and unsuited to providing rural development in southern Colombia. Under pressure from the U.S. government, which had opposed offering farmers a one-year window to eradicate crops gradually under the “social pacts,” the Pastrana Administration moved towards “early eradication” programs in which crops were destroyed prior to any aid being delivered. The Uribe Administration promoted a new “forest guardian” program that involves paying farmers to leave forests intact for the purpose of environmental conservation. The Colombian government widely publicized this program but offered little in the way of specifics about how it would be implemented, and USAID has been skeptical about its practicality.<sup>164</sup> USAID-funded alternative development programs have expanded to a total of nine Colombian provinces and now include a variety of programs focusing on crop-substitution, product marketing and credit, forest conservation, and social infrastructure.<sup>165</sup> They remain, however, relatively small in scope in areas outside Putumayo province.<sup>166</sup>

The amount of funding spent on alternative development is somewhat less than it appears in the State Department’s budget presentations

to Congress. The budget category, “Alternative development and institution building,” is used for a variety of purposes besides alternative development, including almost all other funding for social programs and human rights, as well as some security assistance. USAID personnel acknowledge considerable pressures from the counternarcotics section of the U.S. Embassy in Bogotá to transfer funds out of alternative development, considered the less important stepchild to the fumigation program and interdiction efforts.<sup>167</sup>

### ***FY2002 and FY2003 State Department Reports on Alternative Development***

According to the FY2002 appropriations act, prior to receiving funds to purchase chemicals for the spray program DoS was required to report that “alternative development programs [had] been developed, in consultation with local communities and

about the extent of the programs or the status of implementation. Nor did it address the requirement that alternative development programs be developed in consultation with local communities. The U.S. and Colombian governments could spray thousands of small farmers, and a single alternative development project, covering an insignificant number of farmers, would satisfy the requirement.

To tighten this loophole, in the FY2003 legislation, Congress changed the word “department” to “area.” However, in the 2003 report to Congress, the State Department once again said that “for the purposes of this report, the Department of State interprets the term ‘area’ as a Colombian department.” Once again, the 2003 report to Congress simply lists each department and asserts that some development projects are taking place, without mention of the numbers of farmers served. In

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“Right now, the plan in Guaviare is just to spray them.” – U.S. official

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local authorities in the departments in which such aerial coca fumigation [was] planned, and in the departments in which such aerial coca fumigation [had] been conducted such programs [had been] implemented.” This provision was placed in the law to ensure that alternative development programs kept pace with fumigation. However, in the 2002 report to Congress on the aerial spraying conditions, the State Department took a legalistic interpretation of the provision to mean a single development project in a given department –i.e. province—of Colombia satisfied the law.

Thus the 2002 report simply listed one or several alternative development projects in each department subject to spraying, including preexisting programs of the Colombian government, the UN, and European governments. Even so, not a single development project was being carried out in one province, and spraying there had to be temporarily suspended until programs could be initiated. DoS provided no information

a number of cases, the projects are extremely minimal. For example, Guaviare programs are limited to two Colombian government road projects totaling \$4.2 million, yet Guaviare, an area with high FARC guerrilla presence, is targeted for intensive spraying. “Right now, the plan in Guaviare is just to spray them,” said one U.S. official.<sup>168</sup>

The State Department argues that the security situation does not permit alternative development to be carried out in many places and that some locations are not suited for production of crops other than coca and poppy. Yet while it is true that some areas are impossible for USAID personnel to enter, most of these areas contain local and regional government authorities and small farmer and indigenous associations that would be willing to carry out alternative development programs if given the opportunity. For those areas where farming and other forms of development are not suitable, the Colombian government has the obligation to consider how the local

populace should survive, whether through planned resettlement or other options.

Much doubt exists in Colombia and the United States that the Colombian government will be able to sustain the alternative development programs long enough to ensure their success. Some residents and local officials in Putumayo have expressed concern that programs like the “forest guardians” are only temporary solutions and will leave farmers in poverty once the aid dries up. Jesús Fernando Checa, advisor to former Putumayo governor Iván Guerrero and current governor Carlos Palacios, expressed fear that USAID plans to withdraw support too quickly for the small farmers benefited by the early eradication programs, preferring to emphasize agroindustrial projects.<sup>169</sup> Many expect that when other areas are targeted by the fumigation, those who fled Putumayo will return, and begin replanting coca because sufficient job opportunities do not exist.<sup>170</sup> Families in isolated rural areas have yet to see the Colombian government maintain a presence and remain skeptical that the government will uphold its promises and provide development aid once their coca has been eradicated.<sup>171</sup>

According to the U.S. General Accounting Office (GAO), the Colombian government faces major obstacles in implementing successful alternative development programs, such as the inability to maintain security in coca-growing areas, limited capacity to carry out sustained interdiction operations, and questionable ability to effectively coordinate eradication and alternative development activities.<sup>172</sup> The GAO also reports that current funding for the Colombian government’s alternative development agency is weak and not ensured. As a point of comparison, the U.S. has provided two decades of alternative development aid to Peru and Bolivia, and yet both countries continue to depend heavily on U.S. support to maintain their development programs.<sup>173</sup>

If alternative development programs are not sufficient to counter the impacts of the fumigation, the lack of sufficient economic alternatives may further alienate citizens

from the Colombian government and promote guerilla recruitment.<sup>174</sup> According to the GAO, in the 1980s and early 1990’s, poor coordination between U.S.-supported eradication operations and alternative development projects in Peru led farmers to sympathize with guerrilla forces opposed to the spraying.<sup>175</sup> Based on anecdotal reports, a large number of young farmers in Colombia have already joined the guerilla or paramilitaries out of economic necessity after their crops, both licit and illicit, were destroyed.<sup>176</sup> According to one small farmer from a community in La Hormiga that was heavily fumigated in August 2002, “There is no work, nothing to do since the fumigations. Some have left to find work or to look for another place to farm. A lot of the young people joined the guerrilla. Of course this was going to happen. With no work, the young people looking for work and money join the guerrilla.”<sup>177</sup>

### **Displacement**

Reports from Colombian authorities and NGOs indicate that aerial eradication under Plan Colombia has led to significant displacement of rural communities. According to figures from the Colombian human rights organization CODHES, there is a direct relationship between the number of persons displaced and the number of hectares sprayed in an area.<sup>178</sup> In official reports, the Department of State has ignored the social costs of this forced migration and even callously described displacement from Putumayo as a sign of Plan Colombia’s progress.<sup>179</sup> Yet depriving people of the right to their land and their culture is a violation of the one of the basic human rights.

Displacement as a result of aerial eradication was first documented a few months after the spraying began. In February 2001, the Colombian Ombudsman recognized reports from various sources that families affected by the spraying in Putumayo had moved to nearby townships and municipalities, the neighboring provinces of Nariño and Cauca, Bogotá, and across the border into Ecuador. The Colombian Consulate in the Ecuadorian border town of Lago Agrio reported that various Colombian families had sought refuge in Ecuador from the spraying.<sup>180</sup>

Although it is extremely difficult to document the reasons for displacement, reports indicate that the number of persons displaced by the fumigation has since grown to considerable proportions. CODHES calculates that fumigation displaced over 75,000 persons nationwide in 2001 and 2002<sup>181</sup> and 35,000 Colombian families since 1999. The NGO reported that the greatest displacement from fumigation occurred in the heavily sprayed provinces of Putumayo, Caquetá and Arauca. From interviews with the local population in these regions, CODHES

not possible to document cause and effect, enhanced Colombian military presence in the Putumayo region as Plan Colombia was implemented appeared to be accompanied by expanded paramilitary control. According to a paramilitary commando in the Guamez Valley, “Plan Colombia would be almost impossible without the help of the [paramilitary] self-defense forces. If we did not take control of zones ahead of the army, the guerrillas would shoot down their planes.”<sup>186</sup> A Colombian refugee in Ecuador explained that when the

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“Put yourself in our shoes. We just had everything fumigated. Now they say they are going to fumigate again. Would you plant food crops just to have them fumigated again? People are fleeing the region.”

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estimated that eight to ten families fled their homes in every township that was sprayed during the second half of 2002.<sup>182</sup>

According to the Colombian Ombudsman and anecdotal reports from press and local NGOs, many individuals have fled Putumayo because spraying threatened their food supply and they could no longer depend on coca for sufficient income to meet their basic needs.<sup>183</sup> As stated by a small farmer from La Hormiga municipality in November 2002, “Put yourself in our shoes. We just had everything fumigated. Now they say they are going to fumigate again in two months. Would you plant food crops again just to have them fumigated again? What else can we do? People are fleeing the region, looking for other places to go.”<sup>184</sup> A priest in the highly conflictive Arauca province indicated that many farmers would abandon their farms because the Colombian army would secure the area prior to the arrival of the spray planes, and they feared how the army would treat them given their illegal production.<sup>185</sup>

According to testimonies collected by CODHES in sprayed regions, many have also abandoned their homes in southern Colombia because fumigation has spurred violent battles for coca producing territory by both guerrilla and paramilitary forces. While it is

paramilitary came in 2000 “[t]hey fought with the *guerrilla* and killed all the people. And then the planes came to spray.”<sup>187</sup> Although there are no official statistics on the number of Putumayo residents displaced from fumigation alone, statistics on persons displaced by political conflict are a revealing indicator of the social upheaval caused by Plan Colombia’s counternarcotics and military operations. According to the Social Solidarity Network, the Colombian government agency that attends to the displaced population, prior to the implementation of Plan Colombia in 1999 the number of people displaced by political conflict from Putumayo was 415. By August 2003, the population displaced from Putumayo had risen to 55,717<sup>188</sup> – approximately 16% of the province’s total population.<sup>189</sup>

The social cost of this displacement is high. Abandoning their homes, property and livelihood, displaced families are typically forced to live in extreme poverty and constant insecurity.<sup>190</sup> Since many peasants do not possess land titles, they lose their right to the land when they abandon their homes.<sup>191</sup> Children are uprooted and must forego their schooling.<sup>192</sup> According to a Colombian Secretary of Education official, approximately 8000 youth aged 5-17 left Putumayo between January and June 2002, forcing twenty-eight schools

in Putumayo to close as of November 2002. Displaced farmers also face major difficulties in finding work owing to a lack of formal education and training, and a 15% national unemployment rate.<sup>193</sup> Many displaced persons return to their homes at some point, but the majority end up settling in urban areas, where they often experience humiliating discrimination and must compete with hundreds of thousands of other displaced persons for employment, housing, and basic services.<sup>194</sup>

Displacement also severely taxes the infrastructure of the cities and towns that receive the migrant populations. Bogotá and other major urban centers in Colombia are

already overwhelmed by massive numbers of displaced persons and cannot provide adequate services such as education, health care, water, electricity, and sanitation. Pressure from the displaced population also inevitably leads to an increase in crime, social tensions and violence,<sup>195</sup> such as occurred in Lago Agrio, Ecuador in early 2001 following a major influx of Colombian refugees.<sup>167</sup>

The situation in Colombia is made worse by the fact that families displaced by fumigation are not eligible for emergency food aid and other benefits from the Social Solidarity Network for those displaced by political violence.<sup>197</sup> According to the Colombian

### Risky Experiments

Since the early 1970s, the U.S. government has experimented with various herbicides to eradicate drug crops in foreign countries. In many instances, the use of these herbicides was discontinued because of concerns about health and environmental impacts. In the late 1970s, fear about the contamination of Mexican marijuana with Paraquat created a panic in the U.S. and led the U.S. Congress to ban the use of federal funds to apply chemicals prohibited in the United States in other countries.[1] Later the U.S. Department of Health, Education and Welfare concluded that the fumigation of marijuana with Paraquat could cause serious health damage to consumers.[2] In 1986, Dow Chemical Corporation refused to continue supplying Triclopir, or Garlon-4, to the U.S. government to eradicate coca in Colombia for fear of being sued over damages.[3] In May 1988, following protests by Peruvian ecologists and peasants, U.S. Ely Lilly Co. decided to stop selling Tebuthiuron, or "Spike," to the U.S. government for the coca eradication program in Peru, on the basis that it had not been tested for use in Peru's environment.[4] Likewise, in the late nineties, a U.S. proposal to begin using Spike to eradicate coca crops in Colombia was strongly opposed by environmental groups and the manufacturer, Dow Chemical. According to Dow, "...it is our desire that this product not be used for illicit crop eradication. It can be very risky in situations where the territory has slopes, rainfall is significant, desirable plants or trees are nearby, and application is made under less-than-ideal circumstances." [5] In July 2003, the British company Imperial Chemical Industries (ICI) requested that authorities stop using the additive Cosmo-flux in the spray mixture in Colombia. According to ICI, which manufactures one the key ingredients in Cosmo-flux, the additive had not been properly tested for use in eradicating illicit crops. [6] The question remains what other manufacturers of the Colombian herbicide mixture will do and whether impacts of glyphosate herbicides for large-scale eradication will also prove unacceptable.

(1) In 1981 the U.S. Congress annulled the 1978 law and newly appropriated funds for use in the international drug control program. Rosa del Olmo, *Prohibir o domesticar? Políticas de drogas en América Latina*, Editorial Nueva Sociedad, Caracas, Venezuela, 1992. p. 95-108; Juan Gabriel Tokatlian, *The United States and Illegal Crops in Colombia: The Tragic Mistake of Futile Fumigation*, The Center for Latin American Studies Working Paper Series, University of Berkeley, Paper No. 3, June 2003. <<http://www.clas.berkeley.edu:7001/Publications/workingpapers/pdffiles/Tokatlian.pdf>>.

(2) Del Olmo, 1992

(3) Tokatlian, 2003.

(4) Del Olmo, 1992.

(5) Phillip O. Coffin, "The Curse of Coca: the move to use a new herbicide to eradicate the coca plant spells trouble for South America's rainforests," *Down to Earth*, July 31, 1998, 7(5) pp. 22-23. Site visited July 2003, <<http://www.drugpolicy.org/library/curse2.cfm>>.

[6] Paul de la Garza and David Adams, "U.S. to study spraying risks in Colombia," *St. Petersburg Times*, August 12, 2001.



Ombudsman, the law doesn't consider those displaced by fumigation as forcibly displaced, but rather views them as criminals.<sup>198</sup> Some local and regional governments, as well as indigenous councils, have sought to provide assistance, but lack resources.<sup>199</sup> Local governments are often not given advance warning of fumigation and so are hard pressed to provide food aid.<sup>200</sup> USAID provides support to various Colombian NGOs that serve the displaced, but their capacity and willingness to serve those displaced by fumigation is unclear.<sup>201</sup>

## V. Environmental Risks

Scientists have warned that the aerial eradication program may cause significant environmental damage to Colombian ecosystems. According to David Olson,

becomes clear that the U.S. government is gambling with the environmental resources of one of the most ecologically rich countries on the planet.

### Natural Environment of Colombia

Colombia is endowed with an incredible array of landscapes, from the Caribbean and Pacific coastal regions to the towering Andean mountain ranges, from the tropical plains at the foothills of the Andes to the vast rainforests of the Amazon Basin. Rivers are plentiful, especially in the Pacific lowlands and plains east of the Andes. In the south, the Putumayo, Caquetá and Guaviare rivers drain into the Amazon watershed. Precipitation is very high in the Pacific lowlands and the Amazon region, where rain falls almost every day.<sup>203</sup>

Colombia is extraordinarily rich in biodiversity

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“The continual displacement of coca farms with the increase in deforestation and opening of new forest regions to settlement is possibly the greatest adverse impact of the aerial eradication program.” – Anna Cederstav, AIDA/Earthjustice

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previous Director of Conservation Science at the World Wildlife Fund, “[f]rom a global biodiversity perspective, defoliating and poisoning vast areas of Colombian forests – an area equivalent to over 3 national parks each year – is like dynamiting the Taj Mahal, a global jewel of humanity’s cultural heritage.”<sup>202</sup> The State Department has countered such criticisms by pointing to the environmental devastation caused by illicit crop production as a much greater threat. However, based on trends in illicit crop production, it appears that fumigation is hardly the panacea for environmental destruction caused by illicit crops; it encourages a shift in coca production to new areas, including remote forests in the Amazon. Moreover, when considering the lack of research and environmental monitoring, ecological studies on glyphosate herbicides, concerns raised by the EPA and informed scientists, and the recent weakening of environmental safeguards in Colombia, it

with the second highest number of species in the world. The country contains on average one in every ten species of flora and fauna on the planet. It is home to between 45,000 and 55,000 species of plants, of which approximately one third are found nowhere else. One-third of all known vertebrate species live in Colombia, including 20% of bird species and 7% of mammal species worldwide. Colombia has 6% of total reptile species, and about 10% of total amphibian species.<sup>204</sup>

### Illicit Crops vs. Aerial Eradication

Colombia’s enormous biodiversity is severely threatened by habitat destruction from deforestation and pollution.<sup>205</sup> Although the total and relative degree of damage is not documented by empirical research, the production and processing of illicit crops is responsible for much of this environmental destruction. Growers cause extensive harm by clearing intact forests for fields and drug processors pollute waterways and soils with

millions of liters of chemical processing agents. Illicit crops have wrought damage to the diverse forest ecosystems of the Andes, the Chocó region of the Pacific Coast, and the Amazon, including numerous protected national parks and indigenous reserves. In the Chocó and the fragments of Andean forests remaining in the Serranía del Perijá, the Macizo Colombiano Cauca, and Nariño, illicit crop production has greatly increased the risk of extinction for many bird and plant species.<sup>206</sup>

Given the threats posed by drug production, it is imperative that any efforts to eradicate illicit crops focus on reducing these environmental harms, not exacerbating them. Spraying a million gallons of a broad-spectrum herbicide over Colombian forests and fields could only be justified for environmental purposes if it was the most benign eradication method available, and would permanently halt drug production. Fumigation does not satisfy either criterion. It is not the most benign method available and historical research indicates that it will not permanently halt drug production, but rather lead to its displacement to more remote areas of Colombia and the region.<sup>207</sup> Thus fumigation does not serve to prevent environmental destruction but rather to increase it. Moreover, given that fumigation encourages drug cultivation and processing in remote areas that are relatively pristine, such as national parks and undeveloped forest areas, it is escalating the magnitude of environmental damage to a new level.<sup>n</sup> According to Dr. Anna Cederstav, staff scientist with AIDA<sup>o</sup> at Earthjustice, “The continual displacement of coca farms with the concomitant increase in deforestation and opening of new forest regions to settlement is possibly the greatest adverse impact associated with the aerial eradication program.”<sup>208</sup>

### Ecological Effects of Glyphosate Herbicides

Studies show that exposure to glyphosate, and more importantly, glyphosate

formulations<sup>p</sup> can have a significant adverse impact on wildlife. Roundup, a variant of the commercial glyphosate formulation used in Colombia, is acutely toxic to fish at concentrations ranging from 2ppm to 55ppm.<sup>209</sup> Based on EPA calculations, direct overspray of a 1-acre 2-foot deep pond would result in Roundup Ultra concentrations of 1.68ppm.<sup>210</sup> At these concentrations, Roundup contamination of small water bodies could conceivably cause acute toxicity to some fish species, which may explain the many reports of fish kills associated with the spraying. Studies also show that at low concentrations, glyphosate exposure to fish has been shown to cause erratic swimming and labored breathing, which can affect feeding, migration, and reproduction. Glyphosate formulations are also acutely toxic to frogs and tadpoles. One study found that a concentration of glyphosate herbicide less than 1ppm caused 45% mortality to frog tadpoles. Another study showed toxicity to adult frogs at 8ppm and 40ppm – concentrations that might be possible for frogs exposed to direct overspray in Colombia according to the EPA.<sup>211</sup> In field and laboratory studies, exposure to glyphosate formulations caused a significant decline in various populations of insects and arthropods that kill agricultural pests, supply food to birds and small mammals, and build healthy soils. Typical and low application rates of glyphosate and glyphosate formulations have been shown to significantly affect the growth and survival of earthworms, substantially reduce nitrogen-fixation by soil bacteria, and kill mycorrhizal fungi that help plants absorb nutrients and water. Several studies have shown that glyphosate treatment increases the susceptibility of crop plants to a number of diseases. Finally, glyphosate indirectly impacts birds and mammal populations by destroying vegetation that they depend on for food, shelter, and reproduction.<sup>212</sup>

<sup>n</sup> For example, spraying in the department of Norte de Santander in 2000 led to the cultivation of coca in the Motilón-Bari National Park and the Catalaura and Motilón reserves, according to the Colombian Ombudsman. (Colombian Government Ombudsman Office, Amicus brief, Legal Case of the Organization of Indigenous Peoples of the Colombian Amazon (OPIAC), May 2002.)

<sup>o</sup> Interamerican Association for Environmental Defense

<sup>p</sup> “Ecological toxicity studies submitted to EPA for some of the formulations of glyphosate products that EPA has registered have shown them to be more toxic than glyphosate alone.” (U.S. EPA, Office of Pesticide Programs, “Details of the Consultation for Department of State Use of Pesticide for Coca Eradication Program in Colombia,” Section 4, III Ecological Risk Assessment, August 19, 2002.) Studies indicate that Roundup is approximately 5 to 20 times more toxic than glyphosate in fish and over 700 times more toxic to frog embryos than the glyphosate formulation not containing surfactants. (World Wildlife Fund, “Comments on Glyphosate,” March 20, 2002.)



### Lack of Environmental Testing and Monitoring

Despite the known risks of glyphosate herbicides and the potential for non-target impacts, neither the US nor the Colombian government carried out any studies to determine the potential effects of the aerial eradication program on Colombian ecosystems prior to initiating the spray operations under Plan Colombia.<sup>213</sup> In fact, according to one scientist's 2002 literature review of 200 citations, "(t)here have been NO scientific investigations on the past or present formulations being used in Colombia."<sup>214</sup>

The Department of State reports that it is now working with the Colombian government to conduct soil and water analyses to determine the persistence of glyphosate and its byproducts in the Colombian environment, as required by the Colombian Environmental Management Plan for the spray program.<sup>215</sup> According to the Colombian Ministry of Environment, other studies to verify environmental impact are also underway.<sup>216</sup> However, based on conversations with EPA personnel, Earthjustice and AIDA state that, "[f]or widespread spraying campaigns to eliminate pests in the United States, the responsible agency would conduct comprehensive environmental impact assessments that go far beyond the limited studies performed in Colombia."<sup>217</sup> "Such U.S. assessments include an evaluation of potential long-term ecological impact, and consider risks

to wildlife and sensitive flora in national parks [and] ...non-target organisms such as fish; ...among others."<sup>218</sup>

The State Department reports that the Colombian government has contracted an independent environmental auditor who is conducting environmental monitoring of the spray program.<sup>219</sup> However, the Ministry of Environment stated that the environmental auditor is not capable of carrying out the audit of the spray program in an "independent" and "autonomous" manner, nor does the environmental auditing process guarantee "transparency," the "transfer" of information, or citizen participation, among other things.<sup>220</sup> In June 2003, the Ministry also noted that the environmental auditor's reports were focused on evaluating the effectiveness of the spray mixture at killing coca, and not on evaluating the effectiveness of measures to protect the environment, as required by the Colombian Environmental Management Plan.<sup>221</sup> Most recently, in September 2003 the National Council on Narcotics (CNE) issued a resolution removing the requirement for an independent external audit from the Environmental Management Plan, requiring instead that an auditing team monitor the program. The resolution does not specify who the team should be composed of, which aspects of the program are to be reviewed or other critical details.<sup>222</sup>

As mentioned previously, the Inter-American Drug Abuse Control Commission of the Organization of American States is preparing to conduct a scientific assessment of the health and environmental effects of the spray program.<sup>223</sup> However, the results of this study are not expected to be released until 2005.<sup>224</sup>

### FY2002/03 State Department/EPA Assessment of Environmental Risks and Effects

In September 2002 the State Department submitted a report to Congress to satisfy a condition in the FY2002 foreign aid appropriations act requiring that DoS consult with the EPA and report that the "chemicals used in the aerial fumigation of coca, in the manner in which they are being applied, do not pose unreasonable risks or adverse effects to humans or the environment." In December



2003, the DoS submitted a certification report to Congress to satisfy a similar condition in the FY2003 foreign aid act as well as a new requirement to show that the herbicide mixture is being used in accordance with the Colombian Environmental Management Plan (EMP).<sup>9</sup> In both reports the State Department interpreted EPA's findings and concluded that no concerns identified by the agency constituted "unreasonable risks" or "adverse effects." In 2003 DoS further concluded that the spray program is being carried out in compliance with the EMP.

However, the EPA did not assert that the fumigation program "posed no unreasonable risks or adverse effects to the environment" in either the 2002 or 2003 consultation report. On the contrary, in 2002 the EPA concluded that, "[t]he ongoing use of a glyphosate spray for coca eradication is likely to pose a risk to non-target plants."<sup>225</sup> According to EPA modeling, spray drift could damage or kill 50% of non-target vegetation from 150 to 600 feet downwind of sprayed areas. The EPA noted that "secondary adverse effects [to terrestrial or aquatic species] from the temporary loss of habitat in the spray area could occur."<sup>226</sup> It stated that glyphosate does have the "potential to contaminate surface water as a result of residues suspended in runoff water."<sup>227</sup> It noted that "some ecologically important water bodies too small to appear on maps could be sprayed directly in a project as large as the coca eradication program."<sup>228</sup> According to the EPA, such direct overspray of small water bodies could lead to "much greater exposure" to the herbicide than would occur with larger bodies of water.<sup>229</sup> The EPA expressed uncertainty about assessing environmental risks of the spray program because the agency's studies are based solely on North American species and ecosystems and it has "little experience with tropical flora and fauna."<sup>230</sup> Finally, the agency concluded that it could not make a "more refined assessment" due to "uncertainty regarding the exact formulation of the spray

solution," namely that the agency did not review any ecological toxicity studies for the specific formulation used in Colombia or the adjuvant, Cosmo-Flux 411F.<sup>231</sup> The agency noted that this was perhaps the greatest uncertainty given that "[t]oxicity studies indicate that US formulations of glyphosate are more toxic to non-target animals than the technical product alone, but not toxic at levels of expected exposure."<sup>232</sup>

In the 2003 consultation report, the EPA reiterated its concerns about destruction of non-target vegetation from drift and uncertainties in the data. According to EPA modeling, with a 10mph wind, spray drift would be expected to kill or damage half of young plants up to 200 feet downwind of poppy spraying, and up to 550 feet downwind of coca spraying.<sup>233</sup> It stated that "As with coca eradication, application to poppy fields will require application at speeds and application heights greater than might be desirable for drift control,.. [t]he added factor of steep slopes make it likely that spray drift from the lower rate poppy sprays could extend a greater distance than that from the coca eradication sprays which are understood to occur on more level terrain."<sup>234</sup> The agency noted that adverse effects to terrestrial or aquatic animals "from the loss of habitat in the spray area are likely." Once again the EPA emphasized that while the spraying of large water bodies would likely not pose a substantial risk to aquatic species, "much greater exposure could occur from direct overspray of water bodies much smaller than a 1-acre, 6-foot deep pond... [and] it is possible that some ecologically important water bodies too small or ephemeral to appear on maps could be sprayed directly."<sup>235</sup> The agency reiterated that while available data indicate that the use of the spray mixture on coca and poppy poses negligible harm to wildlife, this assessment is based on data for North American species and environmental conditions, and cautioned that the EPA has little experience with tropical flora and fauna.

<sup>9</sup> See 2003 conditions in footnote 1.

<sup>1</sup> It is important to note that when the EPA states "not toxic at levels of expected exposure," it is drawing this conclusion based on toxicity studies for North American species and ecosystems. For a detailed discussion of the relative toxicity of glyphosate and its inert ingredients, specifically POEA, see World Wildlife Fund "Comments on Glyphosate" March 2002.

<sup>5</sup> Despite the concern that slope affects spray drift, DoS apparently did not provide information to the EPA regarding the degree of slope on mountainsides in Colombia where poppy grows. According to the EPA assessment, this information was "not available" to consider when modeling drift from poppy and coca spraying.

Finally, contrary to DoS's assertion of compliance with the Colombian Environmental Management Plan, the letter submitted to DoS from the Colombian Vice-Minister of Environment does not certify that the spray program is being carried out in compliance with the EMP. Rather, the letter says that the mixture is being used according to a concept in the EMP that refers only to the permitted dose of glyphosate. Regarding other components of the EMP, such as the requirement to conduct environmental zoning of spray areas and to prepare contingency plans in the event of emergencies, the Vice-Minister simply reports that they are "being verified and followed up periodically."<sup>236</sup> It is noteworthy as well, that as of June 2003, the Ministry of Environment had fined DNE for violating requirements in the EMP.<sup>237</sup>

### Outstanding Environmental Concerns

In addition to the problems and uncertainties identified by the EPA, various U.S. scientists and analysts critiqued the 2002 EPA assessment and DoS report to Congress, and identified serious flaws in the analysis.<sup>†</sup> Among the more prominent concerns, which are relevant for the 2003 analysis as well, are the following:

- The assessment did not consider the overall environmental impacts of the aerial eradication program. It did not address impacts such as deforestation in remote areas due to the relocation of coca fields or cumulative impacts to biodiversity, endemic species (found only in Colombia), critical habitat, and fragile ecosystems.<sup>238</sup>
- The assessment did not consider any ecological information specific to Colombia or the tropics.<sup>‡</sup> It did not include "one single study that examines the potential impacts on fragile tropical ecosystems such as those in Colombia or other nations with similar environmental and climatic conditions. The DoS provide[d] no information regarding the fate of the pesticide in this environment. The DoS provide[d] no information regarding plant

re-growth rates or impacts on ecosystem composition in this environment. The DoS provide[d] no information regarding impacts on endangered or endemic species in Colombia."<sup>239</sup>

- The assessment failed to examine a large body of literature showing adverse effects to aquatic species, amphibians, and soil biota from glyphosate formulations. The EPA cited a report prepared for the Ministry of Environment of Ecuador that presents more than 150 studies that indicate that ingredients in the herbicide formulations used in Colombia can have deleterious effects on aquatic life, soil ecosystems and insect life. However the agency failed to obtain or review any of the cited literature.<sup>240</sup>
- The assessment of spray drift was not based on field data that reflected actual application conditions. Since DoS did not provide the EPA with quantitative spray drift studies, measurements of droplet size under application conditions, off-target exposure assessments that show measurements of wind speed and altitude at the site of pesticide application, or data on the height and diversity of vegetation in coca cultivation areas, the EPA could not adequately assess the ecological risks from herbicide spray drift.<sup>241</sup>

These critiques make clear that while the EPA assessments have been helpful, most notably in prompting the switch to a herbicide formulation with lower potential for acute eye toxicity, the current parameters for the EPA's role are extremely limited. Without a stronger legislative mandate that enables the EPA to obtain accurate information about application conditions and Colombian ecosystems, the EPA will be unable to accurately assess the environmental risks and effects of the spray program and to recommend implementation of appropriate safeguards. One serious limitation, as a high-level EPA official asserted, is that the EPA can only base its analysis of the aerial eradication program on information that is submitted to it by the

<sup>†</sup> For complete reviews of the State Department Report on Aerial Eradication, see <http://www.amazonalliance.org/scientific/scientific1.htm>.

<sup>‡</sup> In June 1988, the director of a U.S. government project searching for effective herbicides for coca eradication renounced his position because the Department of Agriculture refused to adequately examine the environmental impact of the herbicides on tropical and subtropical ecosystems. (Rosa del Olmo, *Prohibir o domesticar? Políticas de drogas en América Latina*, Editorial Nueva Sociedad, Caracas, Venezuela, 1992. p.103)

State Department.<sup>242</sup> The agency cannot give equal weight to information from other sources, nor can it collect primary data in Colombia or contact independent organizations for additional reports.<sup>243</sup> For example, the EPA should be able to factor into its analysis a November 2003 letter from the former Director of National Parks in Colombia indicating that planes have sprayed watersheds close to National Parks, including rivers and wetlands.<sup>244</sup>

In addition to these critiques, new concerns about environmental impacts have emerged since the State Department worked with

the Colombian government to conduct spraying in a much expanded, sensitive area with fewer precautions and oversight, significantly increasing the environmental risk.

Among the changes in the EMP, the lifting of the prohibition on spraying in Colombian National Parks is particularly alarming. For the first time the FY2004 foreign aid act will allow U.S. funds to be used for spraying “in Colombia’s national parks or reserves if the Secretary of State determines that it is in accordance with Colombian laws and that there are no effective alternatives to reduce

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Spraying in Colombia’s national parks is “a threat to the Colombian heritage.”  
– Juan Mayr, former Minister of the Environment

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the Colombian government to remove and weaken many of the strict environmental measures contained in the Environmental Management Plan (EMP) for the spray program approved in 2001. In late 2003, following consultation with the U.S. Embassy and Colombian government agencies, the Colombian government modified the 2001 EMP to allow aerial spraying in Colombian national parks and to dramatically reduce the buffer zones to protect environmentally and socially sensitive areas such as water bodies and settlements.<sup>v</sup> Among other changes, the government also deleted or postponed firm deadlines for environmental reporting, removed the requirement for an independent external audit, permitted higher flight altitudes for spray planes, and eliminated flight speed limits.<sup>245</sup> In the 2003 certification report to Congress, DoS did not acknowledge any of these changes, much less provide justification for them. The elimination of these and other protection measures, deemed mandatory by the previous Ministry of Environment,<sup>w</sup> will allow DoS and

drug cultivation in these areas.” Given that the legislation does not indicate how DoS should demonstrate that there are no effective alternatives, it is likely that the agency will assert that the size of the parks and the security situation does not permit manual eradication. Although previously prohibited under the EMP and other Colombian laws, reports indicate that authorities were already spraying in national parks.<sup>246</sup> Now, with expressed approval from Congress to use U.S. funds for this purpose, it is expected that the spraying in national parks will greatly increase.

The question of aerial spraying vs. manual eradication in national parks has ignited significant controversy in Colombia. According to Juan Mayr, former Minister of the Environment, “This is one of the most serious situations that could happen with respect to the environment in this country. It is a threat to the Colombian heritage.”<sup>247</sup> Julio Cesar, president of the Organization of Indigenous Peoples of the Colombian Amazon, stated that spraying in

<sup>v</sup> According to AIDA and Earthjustice, “DoS has argued that the buffer zones were changed to make the spraying parameters consistent with those for agricultural spraying. If this were true, one might expect the Ministry to also reduce the flight speeds, altitudes, and herbicide concentrations permitted for the Plan Colombia eradication program to make these consistent with regular crop dusting parameters. No such changes have occurred.” (Interamerican Association for Environmental Defense, “The Plan Colombia Aerial Eradication Program for Illicit Crops—An Analysis of the 2003 Department of State Certification to Congress,” February 25, 2004, p. 12)

<sup>w</sup> The major changes to the 2001 EMP were approved after President Uribe selected the former Presidential Advisor on Plan Colombia, Sandra Suarez, to become the new Minister of the Environment, Housing and Land Development (Presidency of Colombia official website <http://www.presidencia.gov.co/ministerios/ambiente.htm> cited in Interamerican Association for Environmental Defense, The Plan Colombia Aerial Eradication Program for Illicit Crops—An Analysis of the 2003 Department of State Certification to Congress, February 25, 2004.)

the parks would be particularly grave because much indigenous territory lies within their boundaries.<sup>248</sup> As of February 2004, more than 3000 citizens and civil society organizations had signed a petition urging the suspension of spraying in Colombian national parks.<sup>249</sup> On March 30, 2003, a televised congressional hearing on the issue will take place in the Colombian Senate.<sup>250</sup> The Colombian Ombudsman, the Colectivo de Abogados José Alvear Restrepo, and the legal clinic of the Rosario University are also challenging the resolution allowing spraying in national parks before the Colombian Constitutional Court.<sup>251</sup>

## VI. Opposition to a Radical Tactic

Since chemicals were first used for illicit crop eradication in the 1970s, large-scale aerial application of herbicides has remained an extremely rare and radical approach to drug crop control. Opposition to the current aerial eradication program in Colombia extends to diverse sectors of Colombian society, other governments, international organizations, and civil society groups around the globe.

According to the State Department, “Colombia is at this time the only country that allows aerial spraying of coca and opium poppy.”<sup>252</sup> Several drug-producing countries have condemned or banned the use of chemicals or biological agents to eradicate illicit crops out of concern for health and environmental hazards<sup>x</sup> During the March 1989 Conference of the Inter-American Drug Abuse Control Commission of the Organization of American States, Peru and twenty-one other nations condemned the use of herbicides to eradicate coca.<sup>253</sup> Bolivian Law No. 1008, Article 18, explicitly states that only manual and mechanical methods can be used to reduce or eradicate coca crops and prohibits the use of “chemical means, herbicides,

biological agents, and defoliant.”<sup>254</sup> Thailand has likewise banned the use of chemicals for crop eradication.<sup>255</sup>

The Colombian government and society resisted the massive use of chemicals to eradicate drug crops until the mid-1990s. When the U.S. government proposed the use of chemicals for crop eradication in 1978, the Colombian government rejected the proposal because of concerns in Colombia and internationally about health and environmental impacts. Faced with continuing pressure from the United States, in 1984 the Colombian government convened a scientific commission to examine the health risks of aerial eradication. The commission advised against the aerial use of glyphosate and other herbicides for crop eradication and recommended restrictions and permanent epidemiological monitoring if aerial spraying was to occur.<sup>256</sup> When the government decided to initiate spraying anyway, affected communities and Colombian environmentalists protested fiercely, indigenous communities fled the spray area in a major exodus, and demonstrations stirred up debate for six months. In subsequent years, numerous official and non-official reports of adverse impacts from the spraying,<sup>y</sup> vigorous protests by affected peasants, and disputes over environmental mitigation measures all worked to bring the spraying to a halt. In 1995 when the Samper Administration opted to renew the coca and poppy fumigation programs on a massive scale,<sup>257</sup> an estimated 241,000 peasants in the department of Guaviare organized major demonstrations and marches for three months in protest.<sup>z</sup><sup>258</sup>

Regional Colombian government officials continue to oppose the aerial eradication program because of its questionable

<sup>x</sup> Out of concern for health and environmental impacts, on July 18, 2000 the Colombian government rejected a proposal to use the fungus *fusarium oxysporum* to eradicate illicit crops. Ecuador and Peru have likewise banned the use of *fusarium oxysporum* for illicit crop eradication. On September 6, 2000, the Andean Committee of Environmental Authorities also rejected the use of *fusarium* for eradicating illegal crops in the member countries of the Andean Community. (Personal communication, Luis Gomer, RAAA-RAPAL Andino, Lima, Peru, December 8, 2003; Andean Community General Secretariat, “Environmental authorities rule out use of *Fusarium oxysporum* fungus in Andean Community countries,” Site visited December 2003. September 7, 2000. <<http://www.comunidadandina.org/ingles/press/np8-9-00.htm>>)

<sup>y</sup> A 1988 study by Ecoforest, Ltd., commissioned by the Colombian National Narcotics Council, concluded that chemical eradication via fixed-wing aircraft should be prohibited because of anticipated environmental impacts, including water contamination, damage from drift, and “great danger to humans and wildlife.” (Ruling of the Administrative Tribunal of Cundinamarca, Reference No. 01-0022. Bogotá D.C., June 13, 2003. P. 32.) For studies on the effects of eradication, also see Juan Gabriel Tokatlian, “The United States and Illegal Crops in Colombia: The Tragic Mistake of Futile Fumigation,” The Center for Latin American Studies Working Paper Series, University of Berkeley, Paper No. 3/ June, 2003, P. 11, Footnote 16.

<sup>z</sup> Their efforts forced the government to agree to a program of alternative development and manual eradication, but no lasting change to Colombian policy resulted.

effectiveness and its adverse social and environmental costs. In 2001, the four governors of the southern Colombian provinces of Putumayo, Nariño, Cauca and Tolima together visited Washington to meet with the U.S. Congress, the State Department and the Office of National Drug Control Policy. They asked the U.S. government to suspend the aerial fumigation program and instead permit them to carry out manual eradication of coca with increased alternative development assistance. These governors, along with the governors of neighboring Huila and Caquetá, warned that aerial spraying alienates farmers without addressing the economic needs that drive them to cultivate illicit crops.<sup>259</sup>

National Colombian government officials and congressional lawmakers also maintain opposition to the fumigation program. Both the

2003, some three thousand Colombian women marched to Putumayo to manifest their opposition to aerial eradication of illicit crops and to advocate for more just drug and development policies.<sup>264</sup> On May 11, 2002, some three thousand Colombians at the National Congress for Peace and Country demanded that the spraying be suspended because it “violates our sovereignty, increases the war, and has high human costs, above all on poor peasants and indigenous peoples.”<sup>265</sup> Ecofondo, an environmental coalition of more than 200 nongovernmental and governmental organizations, has criticized the spraying for “gravely affecting the biodiversity and critical regional and national ecosystems.”<sup>266</sup> Indigenous and peasant farmer organizations have issued numerous declarations against the spraying, such as the following passionate statement by the

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“Colombia is at this time the only country that allows aerial spraying of coca and opium poppy.” – the State Department

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Comptroller General of Colombia (Contraloría) and the Colombian Government Ombudsman have requested that the spraying be suspended on technical, legal, and economic grounds.<sup>260</sup> In an August 2002 evaluation of Plan Colombia, the Comptroller General reported that, “Forced eradication has not only yielded few results, it has been carried out in such a way that the negative externalities exceed the benefits.”<sup>261</sup> A diverse group of Colombian members of Congress has objected to the program for violating principles and rights encoded in the Colombian Constitution and disregarding mandates intended to protect human health and the environment.<sup>262</sup> In the Colombian Senate, three new legislative proposals were launched by 2001 to prohibit aerial spraying of illicit crops and decriminalize small farmers growing illicit crops.<sup>263</sup>

Diverse nongovernmental organizations and affected indigenous and peasant farmer organizations also ardently oppose the fumigation program. As recently as November

Organization of Indigenous Peoples of the Putumayo Zone (OZIP).

*Aerial spraying is death ... it is genocide. Glyphosate does kill ... it kills communities through death by hunger, because they spray our daily sustenance: food, pastures, and water. Aerial spraying is terrorism: its damage and effects are irreparable, they remain etched in the memory and conscience of the land and its people. We the indigenous peoples of Putumayo reject crops for illicit use, but we equally reject the violent methods that are used to combat them.*<sup>267</sup>

Numerous countries and international government bodies have also criticized the Colombian aerial eradication program and called for its suspension. In February 2001, the European Parliament voted 474 to 1 to condemn Plan Colombia and recommended that the European Union (EU) take action to “secure an end to the large-scale use of

“It’s Not Enough to Fumigate,” Editorial, *El Tiempo*, Bogotá, Colombia, March 3, 2003

“But the idea was to destroy coca production, not to destroy the small farmers who grow coca. And very little is being done for the small producers who, in their poverty, chose to grow illegal crops. The alternative development projects, hard to carry out in areas dominated by armed groups, give a poor showing, and the plans for financial aid, education and social aid progress at a snail's pace. The result is... more displaced people, greater instability and more violence. And what happens is that the production is redistributed. According to the governors of Nariño and Cauca, with eradication in Caquetá and Putumayo, coca is increasing in their provinces. When they tried in Peru and Bolivia, cultivation moved to Colombia. And now, with fumigation in Colombia, illicit crops grew in Peru by 28% while in Bolivia, farmers’ protests exploded which left more than 30 dead. As long as a few hours’ flight away the voracious markets of consumers thrive, there will always be someone to provide the drugs. It doesn’t matter how aggressive the fumigation is and how much we congratulate ourselves for pouring glyphosate on the Colombian countryside.”

chemical herbicides...given the dangers of their use to human health and the environment.”<sup>268</sup>

In April 2003, the European Commission reiterated its opposition to the aerial spraying of illicit crops out of concern for adverse impacts to social and economic welfare, human health, and the environment.<sup>269</sup> The Andean Parliament, an inter-governmental body representing Colombia, Venezuela, Ecuador, Peru, and Bolivia, unanimously agreed in August 2001 that the Colombian government should temporarily suspend aerial spraying until technical studies on the impact of glyphosate can be completed.<sup>270</sup>

Based on complaints from border communities<sup>aa</sup> and concerns about health and ecological impacts, in July 2001 the Ecuadorian government also requested that the Colombian government enforce a 10-kilometer no-spray zone along the Ecuadorian border.<sup>271</sup> Despite an initial verbal confirmation that the buffer zone had been established,<sup>272</sup> the Colombian government has refused to comply with the request. The matter is currently being addressed by a binational technical committee.<sup>273</sup> Meanwhile, Ecuadorian

President Lucio Gutierrez continues to openly criticize the program.<sup>274</sup>

Finally, nongovernmental organizations and networks from around the globe have criticized and called for a suspension or ban on the fumigation out of concern for social and ecological impacts.<sup>275</sup> Among such organizations in the United States are the World Wildlife Fund,<sup>276</sup> Earthjustice,<sup>277</sup> the National Congress of American Indians,<sup>278</sup> the U.S. Conference of Catholic Bishops,<sup>279</sup> the Washington Office on Latin America, and numerous U.S. scientists and health professionals.<sup>280</sup> In July 2001, the National Environmental Justice Advisory Council (NEJAC), a federal advisory committee to the EPA, also expressed serious concern about the adverse impacts of the fumigation policy on poor marginalized communities and biodiversity in Colombia. The Council called for greater scrutiny and public disclosure of the eradication program. As the NEJAC stated, “...we cannot imagine that the serious scope of the environmental harms and threats to the health and livelihood of the poor and Indigenous people in Colombia were foreseen and intended by Congress in authorizing Plan Colombia.”<sup>281</sup>

<sup>aa</sup> On December 10, 2002, farmers and indigenous communities along the Ecuadorian-Colombian border filed a lawsuit against the Ecuadorian government for failing to protect the health and welfare of border residents from aerial spraying along the Colombian border. In January 2003, the Court of Administrative Disputes ruled on the plaintiffs behalf and ordered the Ecuadorian government to take urgent measures to attend to those affected and to prevent continued spraying along the border region.<sup>28</sup> On July 11, 2003 the Ecuadorian Constitutional Tribunal overturned the decision in a 9-3 vote, reportedly basing their decision in large part on the pending report of the Binational Technical Commission that is currently evaluating the potential health and environmental risks of spraying near the border. (Interinstitutional Committee on Aerial Eradication, Quito, Press Release, January 24, 2003.)

## VII. Violations of Colombian, U.S., and International Law

Contrary to assertions by the State Department that the U.S. government is promoting the rule of law and democracy in Colombia, reports from Colombian government agencies and rulings by Colombian courts indicate that the aerial eradication program is being conducted in direct violation of numerous Colombian laws. Various nongovernmental organizations have also presented legal complaints before U.S. and international legal bodies, alleging violations of U.S. and international law.

### FY2002 State Department Report on Compliance with Colombian Law

The FY2002 foreign aid act required that the State Department consult with the Colombian government and report that “the fumigation is in accordance with Colombian laws.” To this end, in the State Department’s 2002 report to Congress, it submitted a brief letter from the Colombian Ministry of Foreign Affairs confirming that the eradication program complied with “each and every applicable Colombian law on the matter.”<sup>282</sup> Aside from stating that an environmental management plan was being implemented, the letter did not specify any of the laws that apply to the program, or provide any substantiating data to show that these laws are enforced.<sup>283</sup>

### Violations noted by Colombian Government Agencies

At the time this letter was submitted, the Colombian Government Ombudsman and the Office of the Comptroller General had expressed strong concerns that implementation of the aerial eradication program was violating various Colombian laws.<sup>284</sup> As summarized by Earthjustice in a memo to the Department of State, these concerns included claims that the eradication program violated:

- 1 The Constitutional rights to life, health, a healthy environment, and public participation.
- 2 Law 30 of 1986, article 91 (Anti-drug Act) requiring authorization from the environmental and health authorities prior to the implementation of eradication activities.

- 3 Law 21 of 1991, ratifying ILO Convention 169 regarding the right to prior consultation of indigenous communities.
- 4 Law 99 of 1993, and Decree 1753 of 1994, (recently replaced by Decree 1728 of 2002), requiring environmental licenses or the implementation of an Environmental Management Plan for activities that can harm the environment.
- 5 Decree 1843 of 1991, regarding the use and management of pesticides.
- 6 Law 472 of 1998, protecting the collective right to a healthy environment, the right to conserve the equilibrium of ecosystems, and public health.<sup>285</sup>

The Ombudsman and the Comptroller General were particularly emphatic regarding the relevant Colombian authorities’ failure to comply with the Environmental Management Plan for the eradication program approved in 2001. For example, they reported that the DNE and other governmental agencies had systematically failed to implement the epidemiological monitoring plan, to conduct an environmental impact assessment, to develop contingency and mitigation plans, to comply with spray buffer zones, and to refrain from spraying sensitive environments such as water bodies and protected areas.<sup>286</sup>

### Violations Recognized by the Colombian Constitutional Court

In addition to these concerns, a major legal case regarding the fumigation program was pending at the time the Colombian Minister of Foreign Affairs submitted the letter of compliance to the Department of State for the 2002 certification report. In July 2001, the Organization of Indigenous Peoples of the Colombian Amazon (OPIAC) brought a lawsuit against the Colombian government arguing that fumigation of their territories violated their rights to life, communal existence, a healthy environment, self-determination, due process, and participation in decisions that affect them. After two lower courts ruled against OPIAC, the organization appealed the decision to the Colombian Constitutional Court. The Uribe Administration was extremely concerned that

the court would prohibit spraying on indigenous territories, which comprise 28% of the national territory,<sup>287</sup> and pressured the judges to reach a “favorable” decision.<sup>bb</sup> In May 2003, the Colombian Constitutional Court affirmed the decision of the lower courts on most counts, but ruled that the government had violated the indigenous communities’ rights to be consulted regarding fumigation in their territories, encoded in Colombian law and in Convention 169 of the International Labor Organization.<sup>288</sup> The court ordered that the government consult in an “effective and efficient manner” with Amazonian indigenous peoples within the following three months in order to reach an agreement regarding the aerial eradication of illicit crops on their territories.<sup>289</sup> In November 2003, the Amazonian indigenous leaders and the government finished the consultation and signed an agreement that permits the fumigation to continue but establishes a permanent forum to address drug policy and development issues with indigenous communities in the region.<sup>290</sup>

#### **Violations noted by the Colombian Administrative Court of Cundinamarca**

In response to a lawsuit brought by two independent Colombian lawyers, on June 13, 2003 the Administrative Court of Cundinamarca ruled that the aerial eradication program violates citizens’ rights to public health, security, and a healthy environment, protected in the Colombian Constitution. The court declared the Colombian government to be in violation of numerous laws and administrative acts, including the Environmental Management Plan (EMP) for the aerial eradication program. The court ordered the Colombian National Directorate of Narcotics (DNE) to suspend the aerial eradication program completely until it has complied with all requisites of the EMP and conducted rigorous health studies to determine the impacts of the spray chemicals on the health of Colombian citizens and the environment. The court further ordered the DNE to identify damages caused by the spraying and implement the necessary correction, mitigation,

and compensation measures required by law, particularly in national parks, highland plains, indigenous reserves, and other protected areas.<sup>291</sup> Nonetheless, following the decision, President Uribe promptly denounced the ruling and declared, “While I’m president and there are drugs, I can’t stop spraying.<sup>292</sup>” The Colombian government appealed the ruling and in the interim, is violating Colombian law by refusing to comply with the court order suspending the spraying.<sup>293</sup> Faced with an appeals process of uncertain duration and a government that is refusing to comply with the order of the lower court, the Colombian population has no legal recourse.

#### **Alleged Violations of U.S. and International Law**

In addition to the concerns and rulings regarding Colombian legal violations mentioned above, several nongovernmental organizations have filed legal motions alleging violations of U.S. and international law. The legal charges in these cases should be considered carefully when assessing the legality of the aerial eradication program.

#### **DynCorp Case in U.S. Court System**

On behalf of ten thousand Ecuadorians living along the Colombian border, the Washington, D.C.-based International Labor Rights Fund filed a class-action lawsuit against the DynCorp Corporation on September 11, 2001, charging the company with reckless spraying of a toxic herbicide over people, their homes, and lands. The U.S. government contracts the Virginia-based company to carry out the spraying in the aerial eradication program. The lawsuit alleges that Dyncorp’s spraying damaged the Ecuadorians’ health, crops, and environment, in violation of the Alien Tort Claims Act, the United States Torture Victim Protection Act, international human rights law, and common tort law of the District of Colombia.<sup>294</sup>

#### **Submission to the UN Commission on Human Rights**

On January 15, 2002, the U.S. public interest environmental law firm, Earthjustice,

<sup>bb</sup> The Minister of Interior, Fernando Londoño Hoyos, sent a letter to each of the nine judges on the Court indicating the inconvenience of suspending the spraying. The judges reacted quite negatively (“Revision of Injunction Jeopardizes Fumigation in Indigenous Territories.” *El Tiempo*, April 28, 2003.)





submitted a written statement to the United Nations Commission on Human Rights alleging that the U.S.- supported aerial eradication program in Colombia violates “the rights of Colombians and Ecuadorians to a clean and healthy environment, health, life, sustenance, property, privacy, and access to information.” To substantiate the claim, the statement mentions the adverse impacts from the spraying to human health, food resources, and environment; the failure of the U.S. and Colombia to instruct sprayers to observe health and environmental safety recommendations; and the failure of the US and Colombia to conduct sufficient health and environmental assessments, among other factors. The organization called upon the UN Commission to urge the United States and Colombia to discontinue the aerial herbicide application program and seek alternative eradication methods.<sup>295</sup>

### Legal Complaint with the Inter-American Commission on Human Rights

In December 2000, the Permanent Assembly of Human Rights (APDH), an Ecuadorian public interest law firm, submitted a formal legal complaint to the Inter-American Commission on Human Rights of the Organization of American States against the U.S. and Colombian governments. The complaint alleges that the U.S. and Colombian governments, through the implementation of Plan Colombia, have violated the human rights of Ecuadorian citizens, including the right to peace, compensation, and reparations. The complaint cites violations from the invasion of Ecuadorian air space by spray planes and

helicopters and the displacement of illicit crops to Ecuador, among others.<sup>296</sup>

### VIII. Alternatives

The preceding assessment makes it clear that aerial eradication is an ineffective and blatantly inhumane approach to reducing drug production and abuse. Faced with this reality, U.S. policymakers should redirect attention and resources towards alternative approaches that safeguard human rights, protect the environment, and minimize social conflict while building the social and economic infrastructure needed to achieve lasting reductions in drug production and abuse. Some alternative approaches that merit strong consideration are detailed below.

- ▶ Provide greater resources and attention to treatment of drug addiction in the United States, and to lessening the harms of drugs through education and prevention. An extensive and growing body of literature provides evidence that such treatment and harm reduction strategies are effective and show promise for expansion.<sup>297</sup> No supply reduction method, not the humane alternative development approach nor the inhumane tactic of fumigation, will do nearly as much to address the drug abuse problem in the United States as improved and expanded drug treatment programs.
- ▶ Promote drug supply reduction strategies that minimize harm to small-scale drug producers. Just as we recognize that attending to the problem of drug abuse requires treatment and not simply

incarceration, we must recognize that small-scale cultivators are also “addicted” to an illegal economic system to meet their basic needs. Harm reduction strategies to reduce supply include: community-based manual eradication, greater access to viable alternative income sources, and increased emphasis on prevention and strengthening social networks.<sup>298</sup>

- ▶ Promote greater market opportunities and access to credit for farmers involved in drug production but committed to switching to legal crops. Economic analyses suggest that policies that increase farmers’ net income from legal crops could be more effective than eradication policies at reducing coca cultivation.<sup>299</sup> Various efforts in Thailand, Bolivia, and Pakistan have illustrated that alternative development with crop substitution and diversified cropping patterns can offer higher returns than coca and opium poppy production.<sup>300</sup> Build the capacity of small farmer associations to participate in regional and international markets.<sup>301</sup>
- ▶ Support open dialogue with drug-producing communities to allow them to identify their own problems with illicit crop production and develop community-supported initiatives for reducing economic dependence on illicit crops.<sup>302</sup> Work with community organizations to stress the social strains caused by illicit crop production. Use participatory methods that strengthen local community organizations and social cohesion.
- ▶ Promote greater dialogue among policymakers at the national and international level on the results of drug policy, placing greater emphasis on the findings of scientific studies.<sup>303</sup>
- ▶ Promote drug policies that seek to reduce harm to the environment by preventing growers from clearing new fields in remote forested areas, apprehending and controlling access to supplies of precursor chemicals, and properly disposing of chemical agents when dismantling drug labs.<sup>304</sup>
- ▶ Redirect punitive law enforcement efforts away from the millions of drug producers and consumers, whose repression has little effect on drug abuse, and towards the comparatively small number of intermediaries in the drug trade, who generate the majority of profit that maintains the trade. For example, law enforcement efforts should focus principally on apprehending those who provide drug crop seeds and credit to farmers, suppliers of precursor chemicals necessary for drug manufacturing, money-launderers, etc.<sup>305</sup>

## Conclusion

Spraying massive amounts of herbicide on the Colombian countryside in an attempt to eradicate illicit crops is a perilous and futile tactic. Incidents of adverse health effects and contamination of livestock and water resources continue to be reported. According to EPA modeling, the spraying is significantly damaging non-target vegetation, and likely causing adverse impacts to wildlife from loss of habitat – in one of the most biodiverse countries in the world. Without having conducted comprehensive health and environmental assessments, such as those that would be completed for a spray program of this magnitude in the United States, the U.S. government is carrying out an experiment on Colombian soil with unknown human health and ecological repercussions. The human impacts of this program, however, are abundantly clear – thousands of farming families are losing food and cash crops as well as their livelihoods, the majority of whom are not offered short-term aid, compensation, or viable alternative sources of income. The brutal effects of this policy are even more tragic when considering that the spray program will, in all likelihood, have no sustained impact on global coca production and cocaine use in the United States. U.S. funding for the aerial eradication program in Colombia should be suspended and redirected towards drug treatment programs at home and alternative development and other more humane and effective drug policies abroad.

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