



HUMAN  
RIGHTS  
WATCH

# “You Don’t Want to Breathe Poison Anymore”

The Failing Response to Pesticide Drift in Brazil’s Rural Communities





## SUMMARY AND RECOMMENDATIONS





## SUMMARY

In May 2013 an airplane sprayed pesticides over a rural school, São José do Pontal, located among the vast corn and soy plantations extending around Rio Verde, a city in Goiás state in Brazil. Around 90 people—mostly children studying at the school—were immediately hospitalized. The incident shocked the nation, and, in the immediate aftermath, Brazil was concerned about the issue of pesticide poisonings in rural areas.

Although this attention has long since dissipated, little has changed: rural people throughout the country continue to be poisoned by pesticides. Ordinary people going about their daily routines face toxic exposures from pesticide applications that frequently occur in immediate proximity to their homes, schools, and workplaces. They are exposed when pesticide spray drifts off target crops during application, or when pesticides vaporize and drift to adjacent areas in the days after spraying.

From July 2017 to April 2018, Human Rights Watch interviewed 71 people affected by pesticide drift in seven sites across rural Brazil, including farming communities, indigenous communities, *quilombos* (Afro-Brazilian communities), and rural schools. The sites are located throughout the five major geographic regions of Brazil.

In all seven sites, people described symptoms consistent with acute pesticide poisoning after seeing pesticide spraying nearby, or smelling pesticides recently applied to nearby fields. These symptoms commonly include sweating, elevated heart rate, and vomiting, as well as nausea, headache, and dizziness.

There is no reliable government data on how many people in Brazil suffer pesticide poisoning. The Ministry of Health acknowledges that under-reporting of pesticide poisoning is a concern and it seems clear that official data grossly understates the severity of this problem.

Bernardo, a man in his 30s, was born in a *quilombo* (Afro-Brazilian) community of around 60, men, women, and children in Minas Gerais State, southeast Brazil. Bernardo told Human Rights Watch that he feels powerless against aerial spraying of pesticides. “We’ve registered several complaints at the [local] civil police station and military police,” he said. “No one solves it—there is no justice.”





A rural school in Primavera do Leste municipality in the state of Mato Grosso in the mid-west region has just over 100 students, with classes for students around 15-16 years old during the day and for adults in the evening. There are plantations immediately beside the school grounds, with the closest classrooms about 15 meters from the fields. Human Rights Watch interviewed five students and teachers in the school.

Carina, a women in her mid-30s who studies at a school in the municipality of Primavera do Leste, Mato Grosso, stands near a cotton plantation. Carina suffered acute poisoning while attending school in 2017: “I started feeling sick, nauseous.... I started vomiting many times, until I had thrown up all I had in my stomach and was just retching. The classes were cancelled for everyone, and I went home.”



While this report documents cases of acute poisonings, chronic exposure to pesticides—repeated exposure to low doses over an extended period—is also a serious public health concern. Chronic pesticide exposure is associated with infertility, negative impacts on fetal development, cancer, and other serious health effects, and pregnant women, children, and other vulnerable people may face elevated risks.

In many cases, there are no national, state, or municipal laws to protect people from pesticide drift. There is no national regulation establishing a buffer zone around sensitive sites in which ground spraying of pesticides is prohibited, and most states do not have such a law on their books. Human Rights Watch has found that even in the few states that do stipulate buffer zones for ground spraying, those rules are not routinely respected.

There is a national norm prohibiting aerial spraying of pesticides within 500 meters of villages, cities, communities, neighborhoods, and water sources. But, as with state-level buffer zones for ground spraying, this regulation is not consistently observed.

By and large, acute pesticide poisoning and chronic exposure is invisible to Brazil’s broader public and policy makers. One of the most insidious reasons for this invisibility is a fear of reprisals from large landowners that grips many rural communities. In 2010, a rural farmer and anti-pesticide activist was shot and killed after pushing the local government to ban aerial spraying that year. In the course of researching this report, threats or fear of retaliation were mentioned in five of the seven sites visited.

Brazil urgently needs to introduce measures to limit pesticide exposure that is harmful to human health. The Brazilian authorities should undertake a thorough and time-bound review of the health and environmental impacts of the current approach to pesticides. While undertaking this review, Brazil should impose a moratorium on aerial spraying and impose and enforce an immediate prohibition on ground spraying near sensitive sites.

A classroom at a school located in the municipality of Primavera do Leste, Mato Grosso, looking out on the plantations immediately beside the school grounds. The school has just over 100 students, with classes for 15- and 16-year-old children during the day and for adults in the evening. Some classrooms are about 15 meters from the fields.





A few hours’ drive from Campo Grande, the capital city of Mato Grosso do Sul state in Brazil’s mid-west region, a community of a few hundred indigenous Guarani-Kaiowá people live in huts and houses in a small forest around a stream. A plantation begins approximately 50 meters from the community’s main hall and several houses located on the margins of the forest.

Human Rights Watch spoke to nine Guarani-Kaiowá men, women, and children living in this site. They described numerous incidents of acute poisoning by pesticides in recent years from both aerial and ground spraying.



Drone image of an indigenous Guarani-Kaiowá community located a few hours’ drive from Campo Grande, the capital city of Mato Grosso do Sul in mid-west Brazil. The adjacent field alternates between growing soy and corn.





Aratiri, a 9-year-old boy, lives in an indigenous community in the state of Mato Grosso do Sul. Residents of the community told Human Rights Watch of numerous cases of acute poisoning by pesticides in recent years from both aerial and ground spraying.



Jakaira, a man in his 40s who has lived in his community in the state of Mato Grosso do Sul for 10 years, suffered acute poisoning around October 2017. He told Human Rights Watch: “You feel bitterness in the throat. You don’t want to breathe poison anymore—you want to breathe another type of air—but there isn’t any.”



Panambi, a woman in her mid-20s, lives in a small house with her mother and four-year old daughter. She told Human Rights Watch that, during an episode of spraying on the nearby plantation in March 2018, she and her family felt their eyes burning and that she covered her daughter’s mouth with a damp cloth to try and protect her. “We should be breathing fresh air, but we felt a bad taste, a burning [sensation.]”



A *quilombo* (Afro-Brazilian) community of around 60 men, women and children is located a few hours' drive from Belo Horizonte, the capital of the state of Minas Gerais in Brazil's southeast region. Houses are simple, set beside a few mango and banana trees, and residents grow beans, pumpkins, corn, and okra at small vegetable plots. Some of the houses in this site are around 20 meters away from the adjacent sugarcane plantation.

Human Rights Watch interviewed 21 men, women, and children. Residents said airplanes often spray over the houses of the community and that spraying interrupts daily activities—such as farming, cleaning of the garden, or just playing.

Drone view of a *quilombo* (Afro-Brazilian) community in Minas Gerais State, southeast Brazil. Some of the houses are around 20 meters from the adjacent sugarcane plantation.





Jovana, a woman in her mid-20s, with her young daughter. They live in Minas Gerais State and, along with other residents, said that airplanes often spray over the houses in their community. She described being sprayed by pesticides from airplanes, along with her children, and experiencing symptoms including headaches, nausea, dizziness and vomiting. Children are particularly vulnerable to the adverse effects of toxic exposures as their brains and bodies are still developing.







Pedrina, a woman in her mid-40s, lives in Minas Gerais State. She told Human Rights Watch she has felt the symptoms of acute poisoning from pesticide spray many times and described fearing retaliation if she went to the authorities to raise concerns about the health impacts of pesticide spraying.



Uiara, a woman in her early 50s, lives in Minas Gerais State. She told Human Rights Watch: “The airplane flies over the houses with the duster on. We don’t wait, we run inside the houses. The pesticides are very strong.”





Estevo, a man in his mid-50s, lives in Minas Gerais State. He told Human Rights Watch: “The airplane [spraying pesticides] flies over the community. Several times pesticides fell on me while I was working on the land. There is nothing we can do.”



# RECOMMENDATIONS

## TO THE MINISTRY OF AGRICULTURE

- Establish and enforce a nation-wide regulation for a buffer zone around sensitive sites, including human habitation and schools, for all forms of ground spraying;
- Establish a moratorium on aerial spraying of pesticides until the Ministry, in conjunction with the Ministries of Health and Environment and as part of a nation-wide review of current pesticide policies, undertakes a study on the human health impacts, environmental impacts, and associated economic costs of aerial spraying (including an analysis of the viability of alternative forms of application);
- In conjunction with the Ministries of Health and Environment, develop a comprehensive national action plan to reduce the use of highly hazardous pesticides in Brazil, via binding and measurable reduction targets with time limits, and accompanied by incentives to support alternatives to, and reductions of, highly hazardous pesticides.

## TO THE MINISTRY OF HEALTH

- As part of a nation-wide review of current pesticide policies, conduct a review on the major health effects and associated costs of acute and chronic exposure to pesticides among people living in rural areas, including pregnant women, children and other vulnerable people;
- In conjunction with the Ministries of Agriculture and Environment, develop a comprehensive national action plan to reduce the use of highly hazardous pesticides in Brazil, via binding and measurable reduction targets with time limits, and accompanied by incentives to support alternatives to, and reductions of, highly hazardous pesticides;
- Develop and implement a protocol to receive complaints about pesticide spraying around sensitive sites, including human habitation and schools, including detailed measures related to:
  - ensuring health authorities conduct follow-up health monitoring and monitoring of drinking water supplies;
  - informing agriculture authorities in order to ensure pesticide spraying is carried out in accordance with the law.
- Ensure existing legislation on testing drinking water is applied, particularly the requirement of water service providers to submit 2 tests a year on all 27 of the pesticides listed in the Ministry of Health’s regulation on drinking water quality;
- Monitor the presence of pesticides in drinking water in indigenous communities;
- Provide technical support to states and municipalities to carry out the surveillance of drinking water in rural and quilombo communities;
- Ensure that the national network of health surveillance laboratories that monitor pesticide residues in water and food have adequate equipment and training of staff to carry out the pesticide residue testing on food and drinking water;
- Amplify, in terms of the number and type of food products and the breadth of tests, the testing of food for pesticide residues under the Program on Pesticide Residue Analysis in Food (PARA);
- Publish annual bulletins of the results of pesticide monitoring in water and food;

- Increase professional training of healthcare workers in pesticide poisonings, including training in clinical diagnoses of acute poisonings and chronic pesticide exposure and their notification requirements;
- Improve the information available to healthcare workers on types of pesticides and their acute and chronic health impacts, including through an online database with toxicological information for the most widely-used pesticides in Brazil and clinical management of acute and/or chronic health effects;
- Increase technical support to state health surveillance programs on populations exposed to pesticide;
- Elaborate awareness-raising campaigns on pesticides, its health-related risks, and how to proceed in case of exposure and/or poisoning.

## TO THE MINISTRY OF THE ENVIRONMENT

- As part of a nation-wide review of current pesticide policies, conduct a review of the major environmental impacts of current pesticide policies;
- In conjunction with the Ministries of Health and Agriculture, develop a comprehensive national action plan to reduce the use of highly hazardous pesticides, via binding and measurable reduction targets with time limits, and accompanied by incentives to support alternatives to, and reductions of, highly hazardous pesticides.

## TO THE MINISTRY OF EDUCATION

- In conjunction with the Ministry of Health, conduct a nation-wide assessment of schools particularly at risk of exposure to pesticide spraying;
- In conjunction with state and municipal secretariats of education, direct school headmasters and headmistresses to notify pesticide poisoning cases of students, including suspected cases, to health authorities as prescribed in the Ministry of Health’s list of diseases requiring compulsory notification;
- Work in collaboration with health authorities at federal, state and municipal levels to monitor exposure and health impacts on the school populations exposed to pesticide spraying;
- Work in collaboration with agricultural authorities at federal, state and municipal levels to reduce exposure to pesticides, including implementing buffer zones around schools for both ground and aerial spraying;
- Include education on the harms of pesticides and protection strategies in the curriculum, as part of environmental education.



# RECOMMENDATIONS

## TO NATIONAL CONGRESS

- Reject bills that would weaken Brazil’s regulatory framework for pesticides, including bill 6299/2002;
- Designate appropriate financial support to the Federal Public Prosecutor’s Office, the Ministry of Health, the Ministry of Agriculture, the Ministry of Education, the Ministry of Human Rights, State Secretariats of Health and Agriculture, and the Ministry of Environment.

## TO THE FEDERAL AND STATE PUBLIC PROSECUTOR’S OFFICES

- Promptly investigate and prosecute alleged cases of spraying within buffer zones or health or environmental damages resulting from pesticide spraying;
- Promptly investigate and prosecute alleged cases of threats against residents or community leaders for complaining about the health effects of pesticides or pushing for better protections against pesticide exposure;
- Develop guidelines on how to investigate and prosecute cases of acute or chronic pesticide poisonings, including detailed measures related to:
  - a referral pathway for public health officials or environmental officials to refer alleged cases of unlawful pesticide usage that has led to public health or environmental impacts;
  - coordination with specialized health services for people exposed;
  - protecting complainants and witnesses from threats and acts of retaliation;
  - collecting evidence of transgressions of norms and regulations related to pesticides.
- Train public prosecutors to investigate and prosecute cases related to unlawful pesticide spraying.

## TO MINISTRY OF HUMAN RIGHTS

- Protect people at risk for denouncing pesticides-related issues under the existing human rights defenders program and other programs;
- Designate and train experts to specialize in pesticide-related cases.

## TO STATE SECRETARIATS OF AGRICULTURE

- If established by the Ministry of Agriculture, rigorously enforce the proposed buffer zone for ground spraying;
- In the absence of action by the Ministry of Agriculture, establish and rigorously enforce the proposed buffer zone for ground spraying;
- Provide support to municipalities in pesticide regulation, including the enforcement and monitoring of buffer zones.

## TO STATE SECRETARIATS OF HEALTH

- Ensure existing legislation on testing drinking water is applied, particularly the requirement of water service providers to submit two tests a year on all 27 of the pesticides listed in the Ministry of Health regulation on drinking water quality;
- Develop and implement the state health surveillance program on populations exposed to pesticides, including detailed measures related to:
  - surveillance on drinking water including all 27 pesticides listed in the Ministry of Health regulation on drinking water quality, as well as other pesticides intensively used in the state;
  - monitor pesticide residues in food;
  - identification and monitoring of rural and quilombo communities, schools and other sensitive sites exposed to pesticide spraying.
- Monitor and publicly report on incidents of exposure and any adverse health impacts of pesticide spraying in rural communities, schools, and other sensitive sites, as well as any measures taken or not taken by local authorities to reduce exposure pesticide spraying.

## TO MUNICIPAL SECRETARIATS OF AGRICULTURE

- If established by the Ministry of Agriculture or State Secretariat of Agriculture, rigorously enforce the proposed buffer zone for ground spraying;
- In the absence of action by the Ministry of Agriculture, establish and rigorously enforce the proposed buffer zone for ground spraying;

## TO MUNICIPAL SECRETARIATS OF HEALTH

- Ensure existing legislation on testing drinking water is applied, particularly the requirement of water service providers to submit two tests a year on all 27 of the pesticides listed in the Ministry of Health regulation on drinking water quality;
- Develop and implement the municipal health surveillance program on populations exposed to pesticides, including detailed measures related to:
  - surveillance on drinking water including all 27 pesticides listed in the Ministry of Health regulation on drinking water quality, as well as other pesticides intensively used in the state;
  - identification of and surveillance on rural and quilombo communities, schools and other sensitive sites exposed to pesticide spraying.
- Monitor and publicly report on incidents of exposure and any adverse health impacts of pesticide spraying in rural communities, schools and other sensitive sites, as well as any measures taken or not taken by local authorities to reduce exposure pesticide spraying.



# “You Don’t Want to Breathe Poison Anymore”

## The Failing Response to Pesticide Drift in Brazil’s Rural Communities

Throughout rural Brazil, ordinary people face toxic exposures when pesticide spray drifts off target crops during application, or when pesticides vaporize and drift to adjacent areas in the days after spraying.

*“You Don’t Want to Breathe Poison Anymore”* documents cases of acute poisoning from pesticide drift across seven sites, including farming communities, indigenous communities, quilombos (Afro-Brazilian communities) and rural schools. People commonly experience vomiting, nausea, headache, and dizziness.

Brazil’s response to pesticide drift is failing. While a Ministry of Agriculture regulation prohibits aerial spraying within 500 meters of inhabited sites, this buffer zone is often ignored in practice. There is no corresponding national regulation delimiting ground spraying.

There are indications that government data grossly understates the prevalence of pesticide poisonings. The national monitoring system for pesticide residues in drinking water and food is also weak.

Acute pesticide poisoning and chronic exposure are invisible to Brazil’s broader public and policy makers. One of the most insidious reasons is a fear of reprisals from large landowners that grips many rural communities. While researching this report, people described threats or fears of retaliation after having mobilized against the health impacts of pesticides.

Brazil urgently needs to introduce measures to limit pesticide exposure harmful to human health. The Brazilian authorities should undertake a thorough and time-bound review of the impacts of the current approach to pesticides. While undertaking this review, Brazil should impose a moratorium on aerial spraying and impose and enforce an immediate prohibition on ground spraying near sensitive sites.



### All photos

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*Irupe and Pinon, both in their 40s, live in a community a few hours’ drive from Campo Grande, the capital city of Mato Grosso do Sul in mid-west Brazil. They told Human Rights Watch that the most recent incident of poisoning was in early 2018, when they felt spray from a tractor spraying pesticides in the nearby plantation. Among her symptoms, Irupe experienced dizziness, headache, and vomiting.*